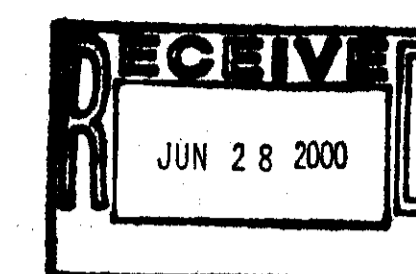


CONSTRUCTION PLANS FOR:  
**THE COMMONS, PHASE 1**

STREET, DRAINAGE, MAJOR UTILITIES  
 CITY OF RIDGELAND,  
 MADISON COUNTY, MISSISSIPPI



OFFICE COPY  
**PLANS REVIEW**  
 Public Works Director \_\_\_\_\_  
 Building Official *[Signature]*  
 Traffic Engineer \_\_\_\_\_  
 Drainage Engineer *[Signature]* 7-18-00  
 Fire Official *[Signature]*  
*SHOTS FOR BASIC Hyd. Spacing*  
 Site plans will not go forward to the  
 Arch. Board, Review Board or the  
 Mayor and Board of Aldermen prior to  
 the above review.

**INDEX TO DRAWINGS**

DESCRIPTION	SHEET
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GEOMETRIC LAYOUT	4
UTILITY LAYOUT	5
WATER & SEWER LAYOUT	6
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NORTH



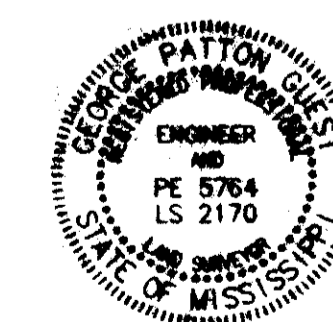
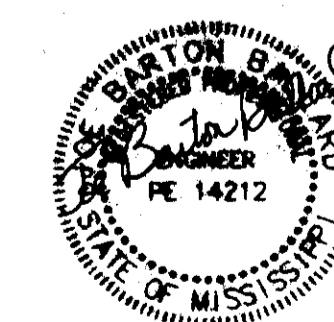
**LOCATION MAP**

PREPARED BY:

**GC**  
**GUEST CONSULTANTS, INC.**  
 CONSULTING ENGINEERS & LAND SURVEYORS  
 TWENTY SIX CASBODGE DRIVE • P.O. BOX 1225 • BRANDON, MS 39043  
 TELEPHONE (601) 835-8341

JUNE, 2000

DEVELOPER:  
**JAMES L. PETTIS, III**  
 2026 SILVER LANE  
 MADISON, MS 39110



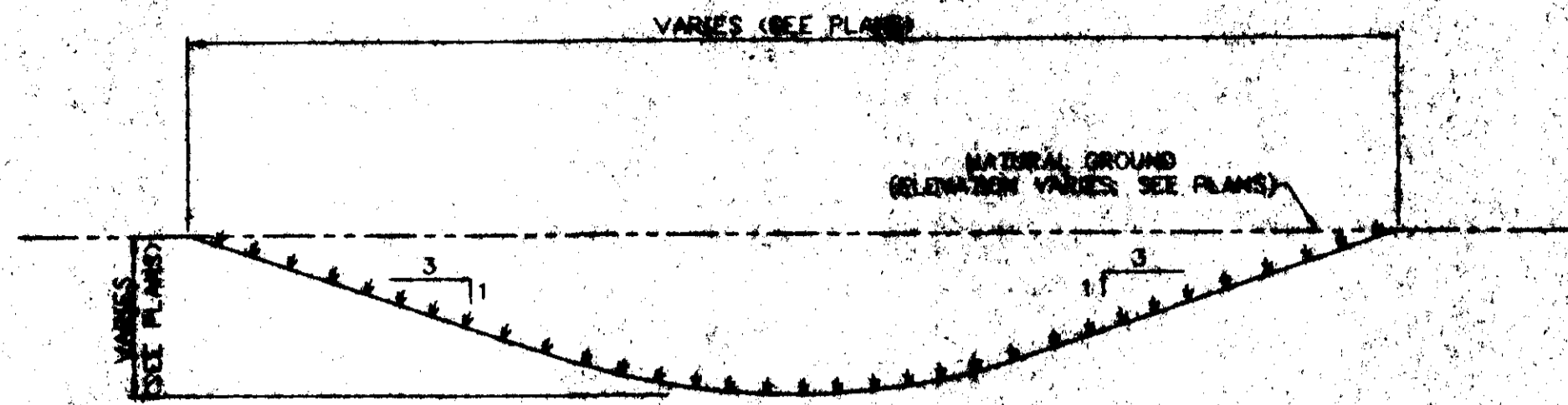
Technical specifications for street and storm sewer construction for this project shall be the Construction details (Technical Specifications) of the Mississippi Standard Specifications for State Aid Road and Bridge Construction, 1989 Edition.

Equipment, Materials and Construction of Water Distribution System and Sanitary Sewer System shall conform to "UTILITY AND STREET CONSTRUCTION FOR THE COMMONS, PHASE 1" A Separate Bound set of specifications by GUEST CONSULTANTS, INC.

If during construction the Engineer finds it necessary to change the lines, dimensions, thickness, grades, slopes, sections or quantities or if such changes are ordered for any other reason; the final quantities will be recomputed based on the plan changes, as a result of authorized changes.

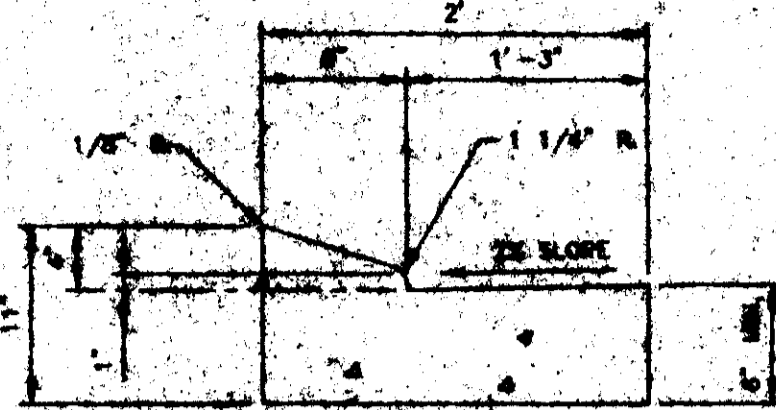
**PWP-00334**



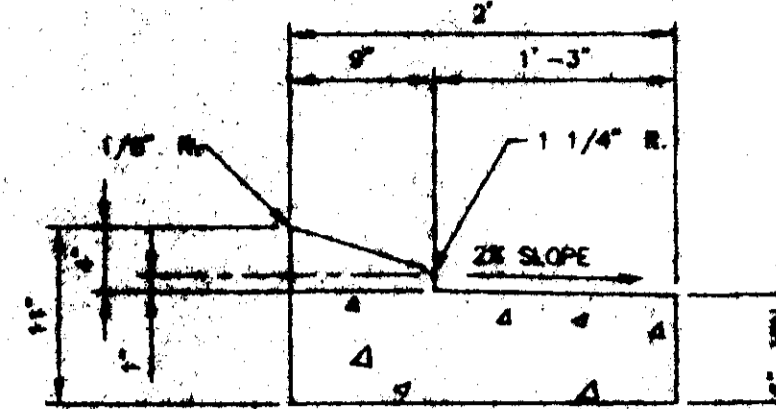


**TYPICAL SWALE DITCH SECTION**  
N.T.S.

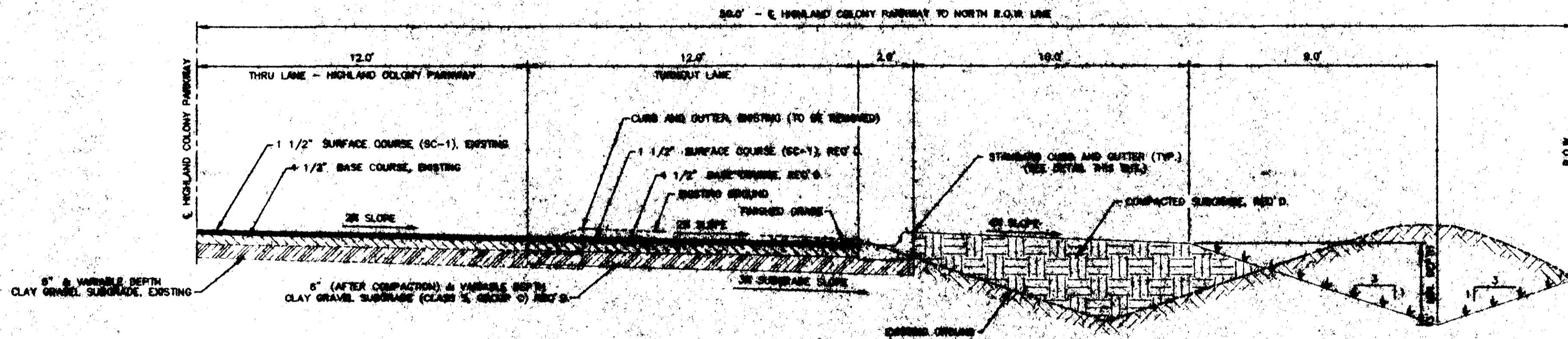
NOTE: SEE PLANS FOR ACTUAL LOCATION OF DITCH



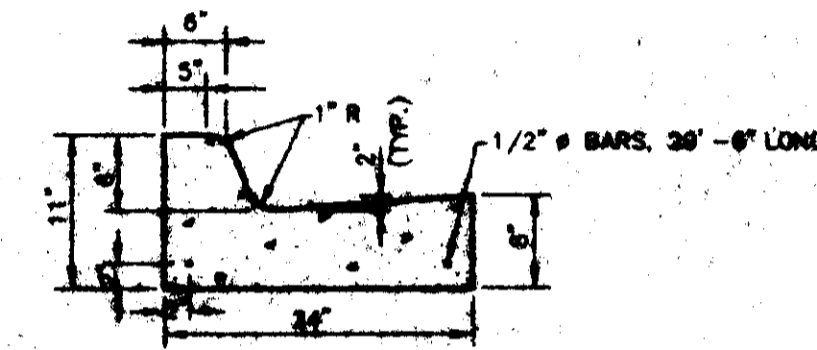
**SECTION OF MOUNTABLE CURB AND GUTTER**  
N.T.S.



**SECTION OF MOUNTABLE CURB AND GUTTER AT ISLAND MEDIANS**  
N.T.S.

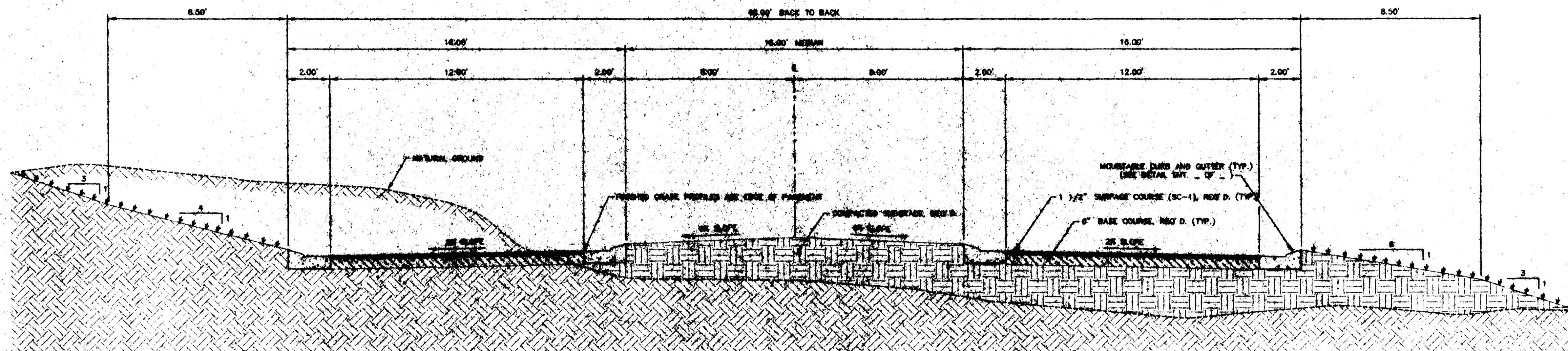


**TYPICAL SECTION HIGHLAND COLONY PARKWAY DECELERATION LANE**  
SCALE: 1" = 3'



**STANDARD CURB AND GUTTER**  
N.T.S.

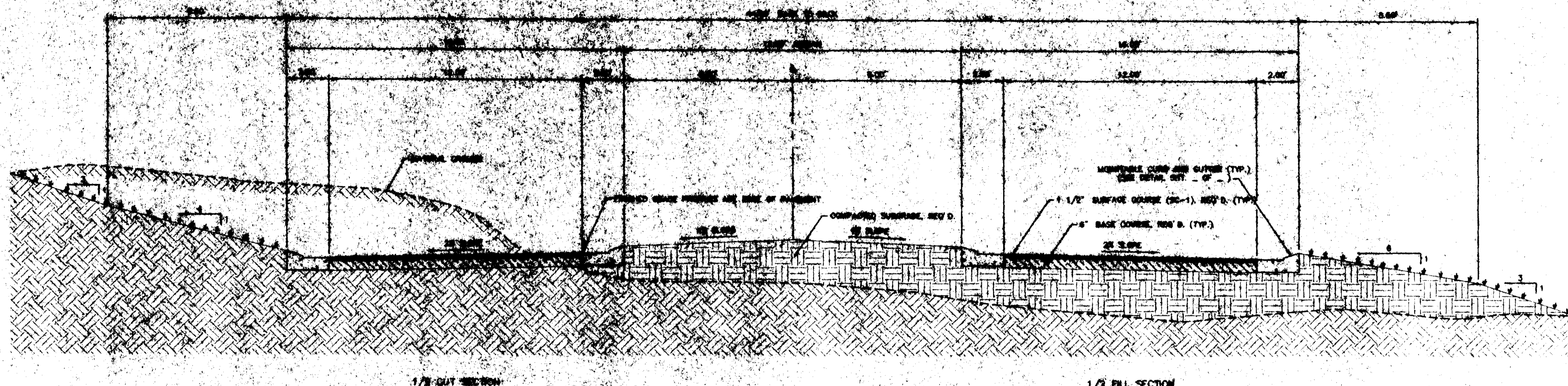
NOTES:  
1. ALL CURBS, GUTTER & DRIVEWAYS TO BE CONSTRUCTED OF 3000 PSI CONCRETE.  
2. 2 - 3/4" BARS, 18' LONG REQ'D. AT EXPANSION JOINTS. BARS SHALL BE HELD IN PLACE BY APPROVED CHAIRS OR SUPPORTS AND 1/2" EXPANSION MATERIAL.



**SECTION OF TYPICAL BOULEVARD**  
SCALE: 1" = 3'  
ROAD "1" - STA. 22+50 TO STA. 27+07.95

- GENERAL NOTES:**
- All access excavation shall be placed evenly on adjoining property as directed by the Engineer. All material shall be properly processed and spread in maximum of 8" to 8' lifts and compacted to 95% Standard Proctor Density.
  - Prior to placement of asphalt base, density tests shall be performed by a licensed soil laboratory at the contractor's expense.
  - Underground improvements shown in these plans are determined from subgrade evidence and maps obtained from various entities. No excavation was performed. Users of these plans should satisfy themselves as to whether the information shown hereon is correct and complete. Connections to existing water and sewer lines shall be coordinated with the Public Works Director for the City of Ridgeland.
  - Elevations are based on M.S.L. datum.
  - Manhole Tops and Valve Covers to be adjusted on job site as necessary to match finished grade.
  - Undercutting of existing material and backfilling with select borrow may be required as directed by the engineer.
  - Stop sign, and Street Signs not a Separate Pay Item. Cost to be Absorbed in Other Items.
  - Contractor shall comply with the requirements of the City of Ridgeland Erosion Control Ordinance and the DEQ Storm Water Pollution Plan.
  - Written dimensions and elevations shall govern over scaled dimensions and elevations.
  - The lengths of sanitary sewer lines shown on these drawings are the distances from center to center of manholes.
  - PVC water lines and sewage force mains installed in roadway sections shall be buried with a minimum cover of 4 feet over the top of the pipe. Backfill shall be placed in 6-inch lifts and compacted to 95% of standard proctor density. All other water and sewage force mains shall have a minimum cover of 3 feet unless otherwise noted on these drawings.
  - Backfill for sanitary sewer lines installed in roadway sections shall be compacted in 6-inch lifts. The top five feet shall be compacted to 95% of standard proctor density.
  - Water and sanitary sewer service connections to extend five feet beyond property lines. Each lot shall be served by individual service connections. Contractor shall mark the service connections as required by the specifications and drawings and shall maintain a log of the horizontal and vertical location of all service lines for submission to the engineer.
  - Fire hydrants shall be "Mueller A-423" to insure capability with the remaining system. Fire hydrant assemblies shall include the fire hydrant, gate valve & box and all appropriate extensions and blocking required.
  - Provide 10 feet horizontal clearance between all water and sewer lines. At locations where the water and sewer lines must cross each other, there shall be a minimum clearance of 18 inches with the water line crossing over the sewer line. If these separations cannot be met, the sewer line shall be constructed to the same specifications as the water line and be water tight until such point as the minimum separation is obtained.
  - The utility contractor shall be responsible for testing the water and sewer systems in accordance with the specifications and shall notify the engineer at least 24 hours in advance of performing any tests. Tests on water and sewer will be as required by the City of Ridgeland.
  - Water service assemblies shall include all tubing from the main to the meter box, tapping saddle, corporation stop, meter, yoke, and meter box and "No. 7 DBL Check Valve." Meters to be supplied by the City of Ridgeland.
  - Contractor is required to bring ground surface within right-of-way to grades shown on the typical section prior to grading and acceptance of project.
  - All block walls of curb inlets and junction bases shall be plastered inside and outside with a 1:2 mix of cement mortar 1/2" thick.
  - Class "B" structural concrete or precast may be used to construct inlets in lieu of masonry.
  - Concrete slab and covers for inlets and junction boxes shall be class "B" structural concrete.
  - Curb and gutter shall be 3000 PSI minimum concrete.
  - Provide expansion joints with 3/4" expansion joint material at intervals of not greater than 30 feet for curb and gutter.
  - Provide contraction joints in curb and gutter at intervals of not greater than 10 feet.

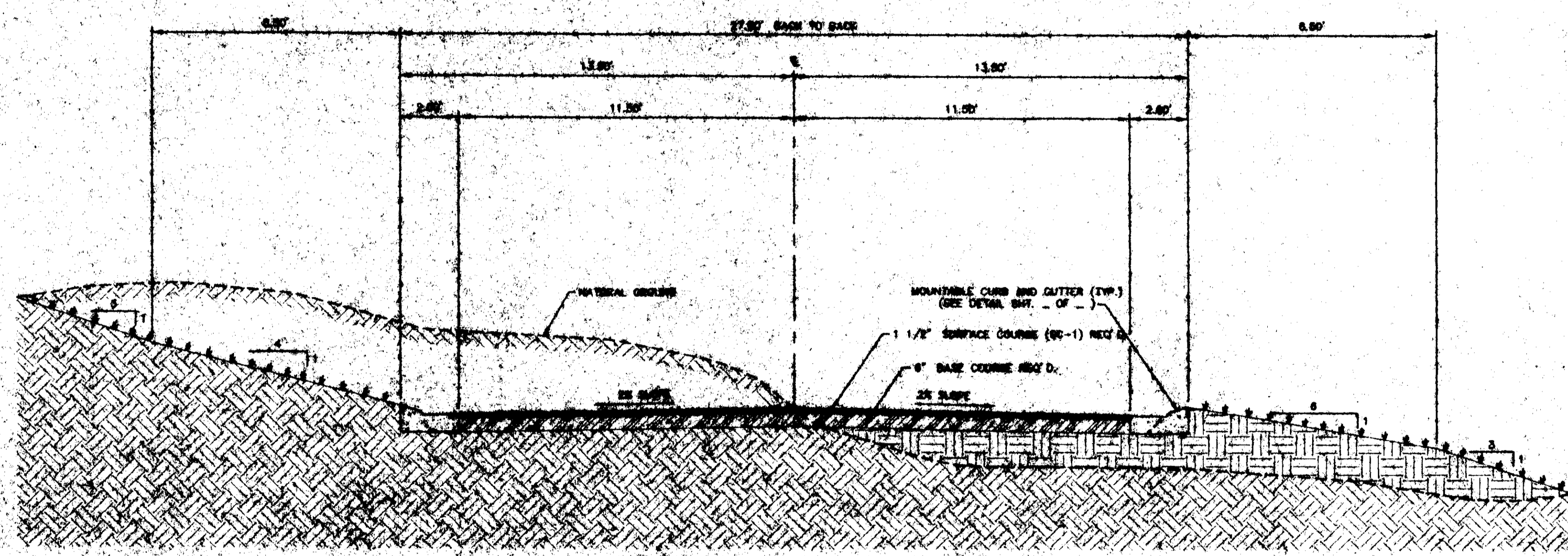




**SECTION OF TYPICAL BOULEVARD**

SCALE: N.T.S.

ROAD "A" - STA. 50+00 TO 52+28.01



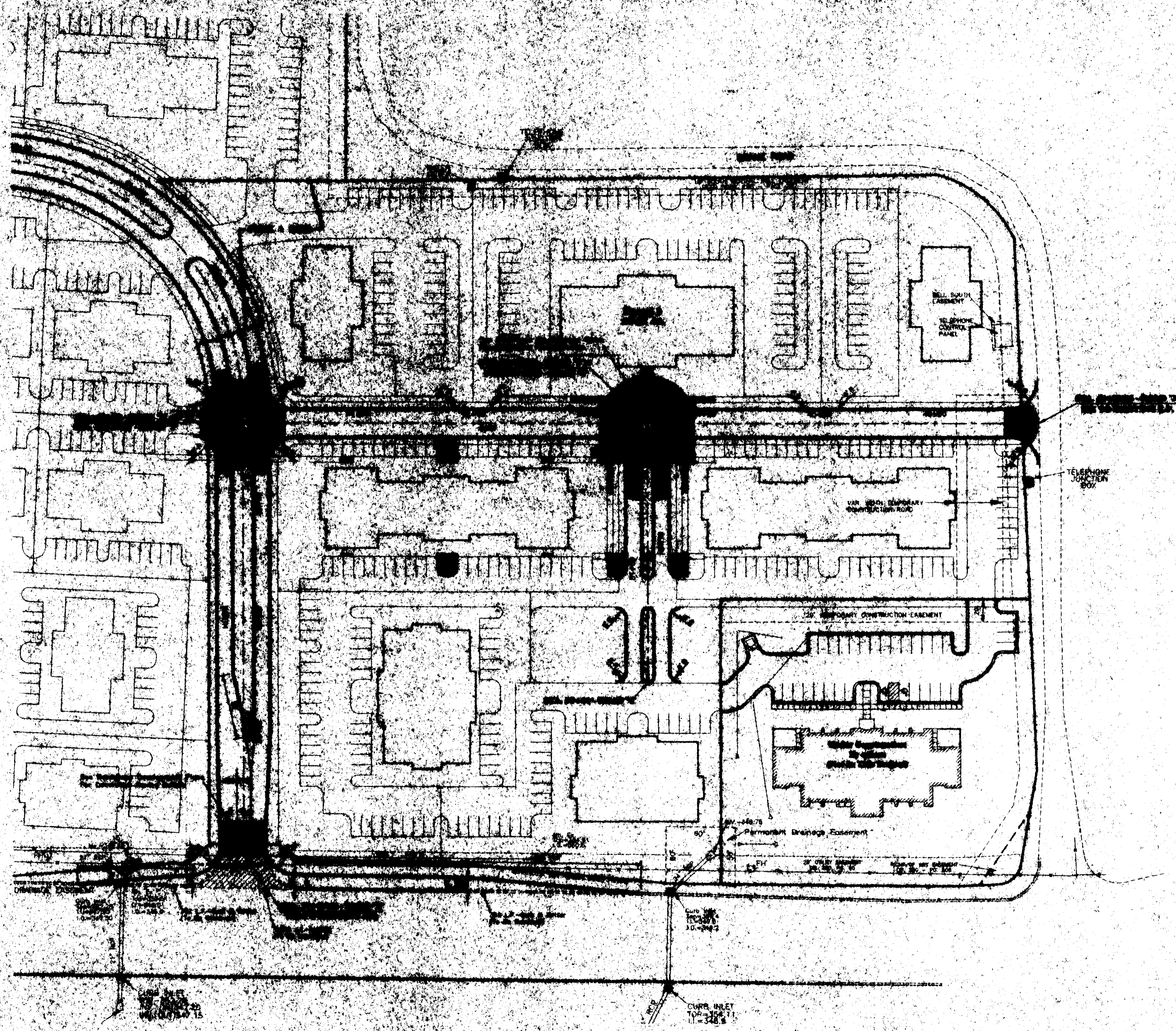
**TYPICAL STREET SECTION**

SCALE: N.T.S.

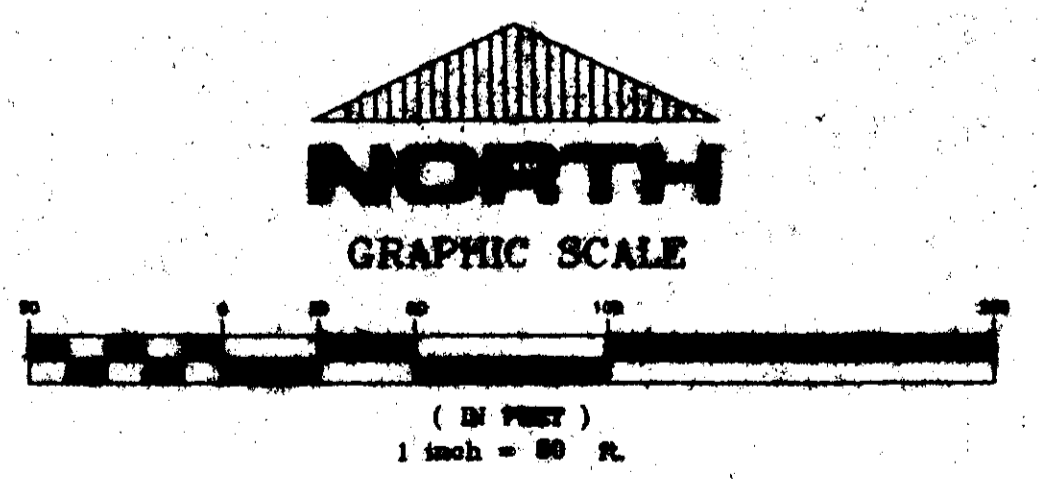
ROAD "B" - STA. 40+00 TO 46+98.06

DATE: 06-13-00 DRAWN BY: J. S. POSEY CHECKED BY: J. S. POSEY	PROJECT: THE COMMONS, PHASE 1 SHEET: C-223B	CLIENT: Great Communities, Inc. ENGINEERS: CIVIL ENGINEERS & LAND SURVEYORS 10000 W. GULF DRIVE, P.O. BOX 1283, SEABOARD, MS 39043 PHONE: (601) 829-4341 FAX: (601) 829-3032	PROJECT: THE COMMONS, PHASE 1	TYPICAL SECTIONS	SHEET NO. 3
--	--	---	-------------------------------	------------------	-------------





Δ  
 Delta=17° 50' 12"  
 R=200.00'  
 L=68.87'  
 T=34.72'  
 C=68.50'  
 Ch. Beg. = N 08° 05' 05" W



DATE OF SURVEY: 12-12-50  
 DRAWN BY: J. W. BROWN  
 CHECKED BY: J. W. BROWN

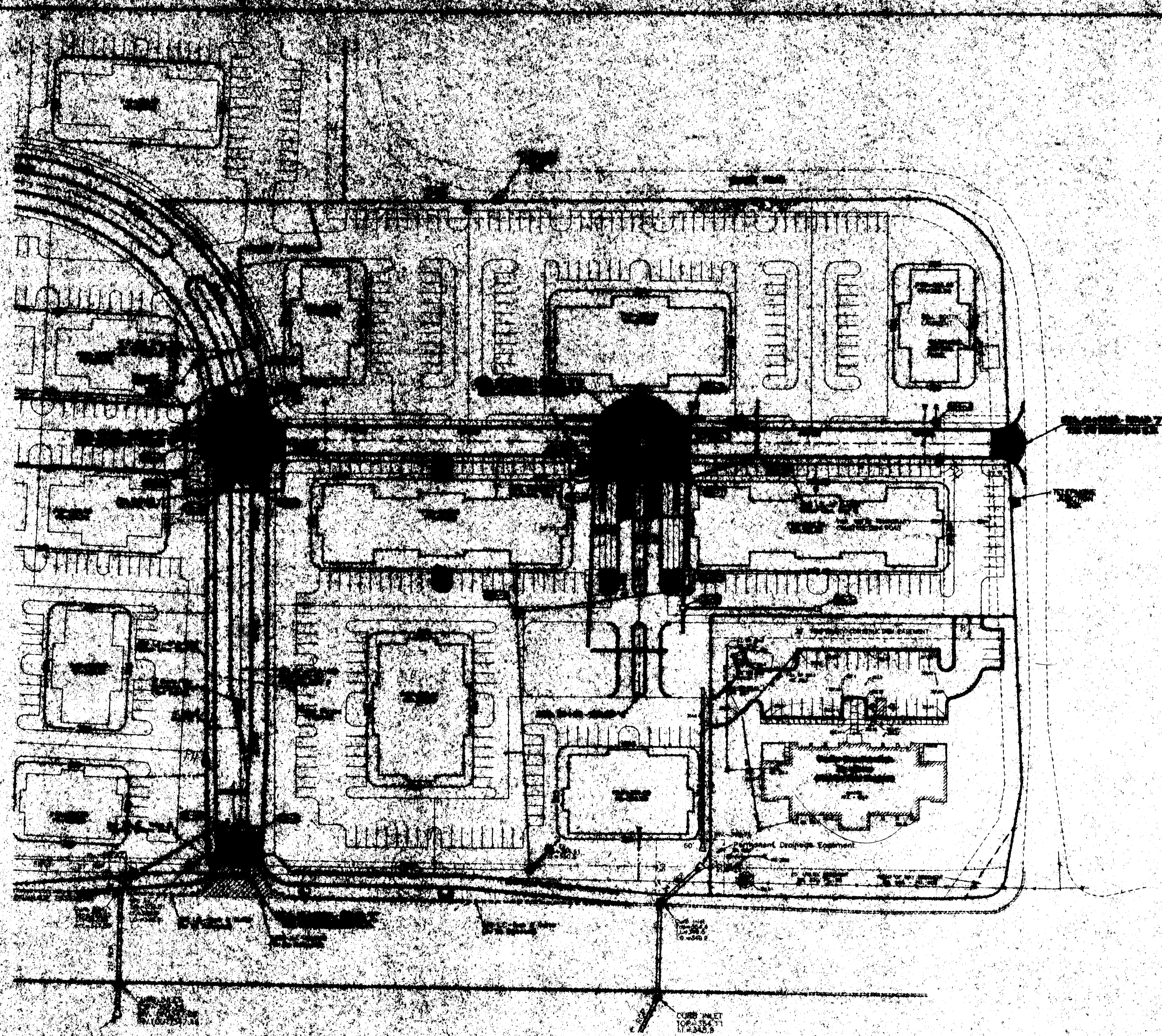
Survey Consultants, Inc.  
 1000 North 10th Street  
 Norfolk, Virginia 23510  
 Phone: (804) 622-3344 FAX: (804) 622-3322

**THE COMMONS, PHASE 1**

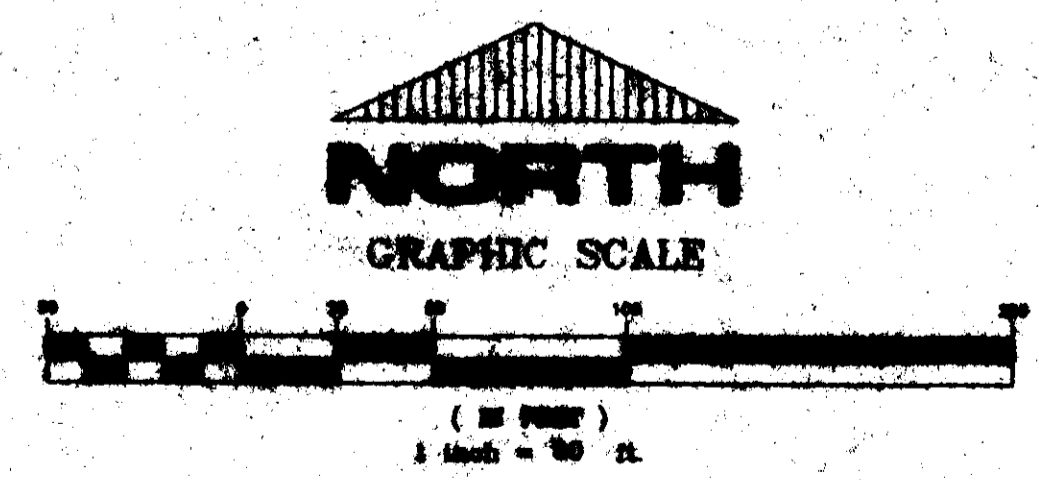
**GEOMETRIC LAYOUT**

SHEET NO.  
**4**



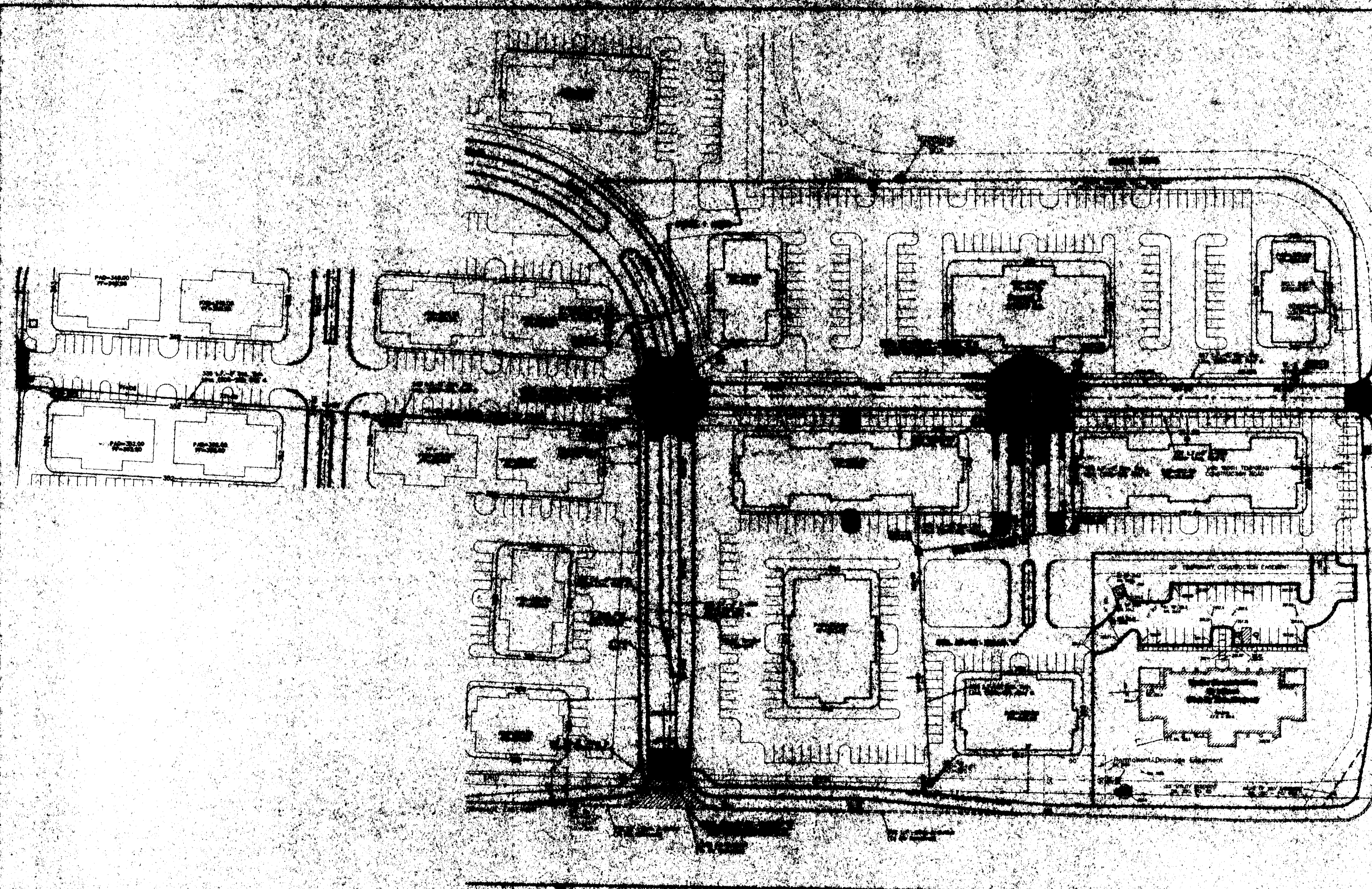


NOTE:  
 CONTRACTOR TO STUB 5" CONDUIT INTO MEDIUM FOR ELECTRICITY.  
 COORDINATE LOCATION WITH ENERGY.



Project Name: THE COMMONS, PHASE 1 Date: 12-15-09 Sheet: 222-011-05	Prepared by: [Name] Checked by: [Name] Date: 12-15-09	Utility Consultants, Inc. 10000 West 10th Avenue, Suite 100 Denver, CO 80231, Tel: 303-751-3222	THE COMMONS, PHASE 1	UTILITY LAYOUT	SHEET NO. 5
---	---	---	----------------------	----------------	-------------



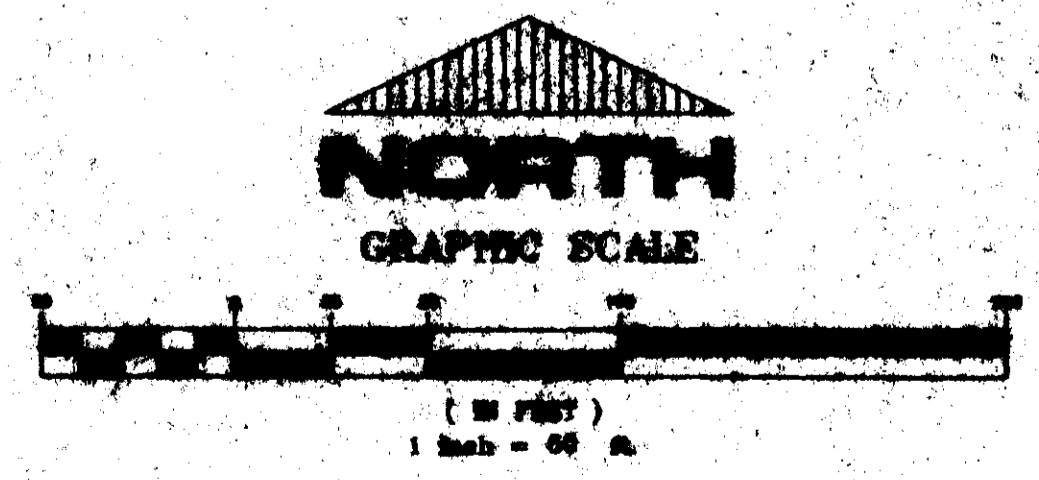


**MANHOLE ELEVATIONS**

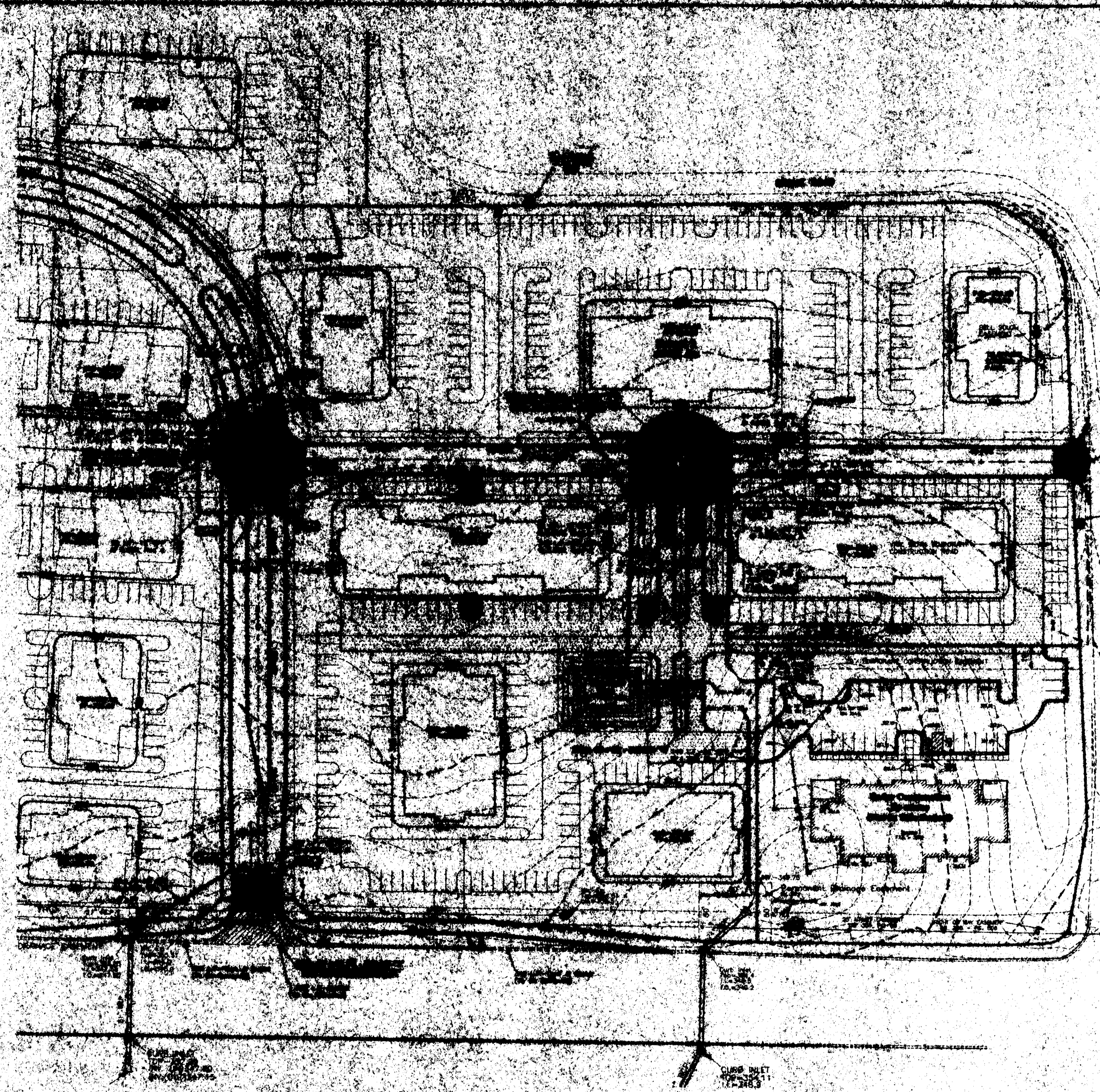
MH-1 STA. = 67+47.15 TOP = 362.80 HW. IN = 357.43 HW. OUT = 357.33 BOTTOM = 355.65 DEPTH = 5.6	MH-2 STA. = 68+30.28 TOP = 362.12 HW. IN = 358.86 HW. OUT = 358.16 BOTTOM = 355.65 DEPTH = 7.08	MH-3 STA. = 69+88 TOP = 358.25 HW. IN = 353.88 HW. OUT = 352.28 BOTTOM = 352.30 DEPTH = 4.75
MH-4 STA. = 62+30 TOP = 363.0 HW. IN = 359.45 HW. OUT = 358.33 BOTTOM = 362.25 DEPTH = 18.77	MH-5 STA. = 73+78.48 TOP = 361.0 HW. IN = 351.82 HW. OUT = 351.72 BOTTOM = 351.72 DEPTH = 9.28	MH-6 STA. = 73+34.49 TOP = 363.0 HW. IN = 358.80 HW. OUT = 358.50 BOTTOM = 345.48 DEPTH = 7.51

- NOTES**
1. ALL UTILITIES ARE TO BE COORDINATED WITH THE CITY OF HOUSTON PUBLIC WORKS DEPARTMENT.
  2. 4" FLOW PROTECTED AS MANUFACTURED BY HOFFS RELATION SERIES. ALL PIPING TO BE GALVANIZED AND SHIPPED WITH METAL COVER PROTECTION.
  3. ALL UTILITY CROSSINGS SHALL BE BACKFILLED WITH 6" LITE SAND AND GROUND SERVICE LINE LOCATIONS SHALL BE PLACED AS SHOWN BY THE DRAWING.
  4. ALL SEWER MAIN AND SERVICE CROSSINGS WILL REQUIRE P.V.C. CASING.

TELEPHONE JUNCTION BOX







**NOTES:**  
 1. Contractor will be required to establish construction benchmarks and provide construction staking for grading.

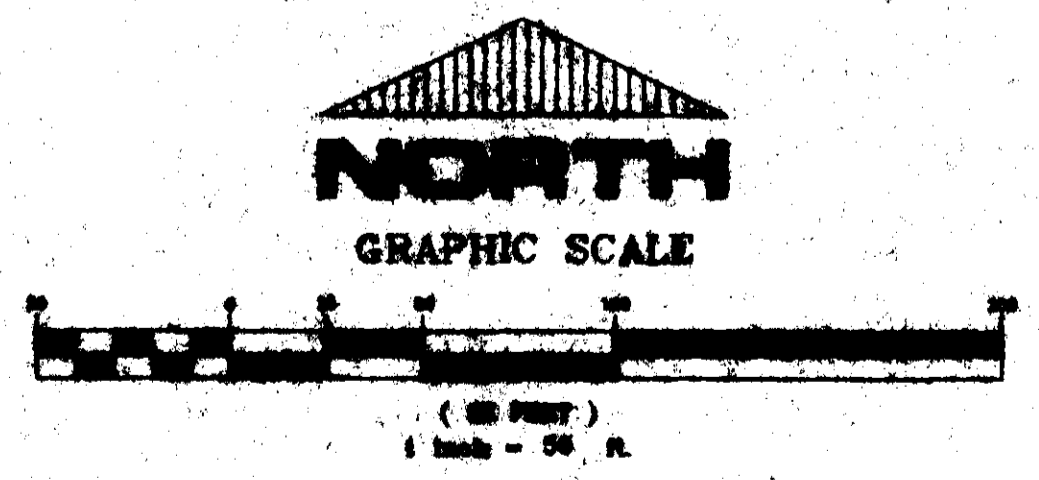
**SEE SHEETS:**  
 1. See sheet 14 for Junction Box Details.  
 2. See sheet 15 for Curb Inlet Details.

**STORM DRAINAGE STRUCTURE DATA**

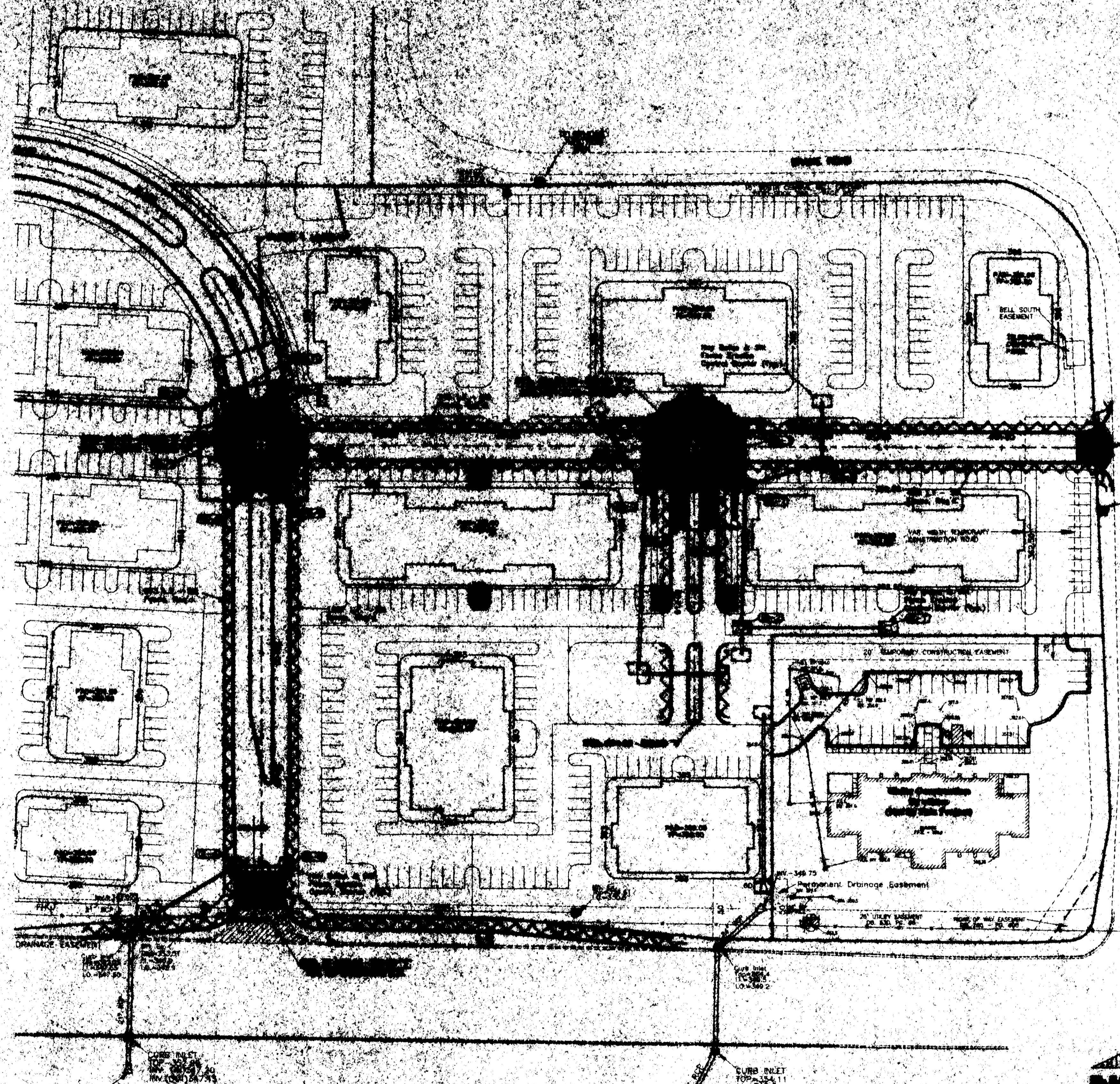
<b>S-1</b> D.A.=0.29 Ac. Cg=18.75 c.f.s. TOP=359.08 INV.=358.40	<b>S-2</b> D.A.=0.00 Ac. Cg=6.03 c.f.s. TOP=353.4 INV.=357.20	<b>S-3</b> D.A.=0.00 Ac. Cg=4.45 c.f.s. TOP=357.00 INV.=356.02
<b>TS-1</b> D.A.=0.17 Ac. Cg=6.95 c.f.s. TOP=351.32 INV. OUT.=357.40 23.0 L.F. @ 2%	<b>TS-2</b> D.A.=0.51 Ac. Cg=2.71 c.f.s. TOP=352.81 INV. OUT.=356.40 23.0 L.F. @ 2%	<b>TS-3</b> D.A.=0.17 Ac. Cg=1.85 c.f.s. TOP=358.03 INV. OUT.=355.20 12.0 L.F. @ 2%
<b>TS-4</b> D.A.=0.15 Ac. Cg=0.85 c.f.s. TOP=358.00 INV. OUT.=356.17 12.0 L.F. @ 2%	<b>TS-5</b> D.A.=0.14 Ac. Cg=0.88 c.f.s. TOP=353.00 INV. OUT.=350.84 12.0 L.F. @ 2%	<b>TS-6</b> D.A.=0.18 Ac. Cg=0.89 c.f.s. TOP=353.00 INV. OUT.=350.12 12.0 L.F. @ 2%
<b>TS-7</b> D.A.=0.08 Ac. Cg=0.50 c.f.s. TOP=353.53 INV. OUT.=350.67 23.0 L.F. @ 2%	<b>TS-8</b> D.A.=0.28 Ac. Cg=1.72 c.f.s. TOP=354.28 INV. OUT.=350.90 23.0 L.F. @ 2%	<b>TS-9</b> D.A.=0.08 Ac. Cg=0.52 c.f.s. TOP=353.25 INV. OUT.=350.99 12.0 L.F. @ 2%
<b>TS-10</b> D.A.=0.08 Ac. Cg=0.62 c.f.s. TOP=353.25 INV. OUT.=350.27 12.0 L.F. @ 2.5%	<b>CI-1</b> D.A.=0.34 Ac. Cg=1.61 c.f.s. TOP=359.50 INV.=353.70	<b>CI-2</b> D.A.=0.57 Ac. Cg=15.34 c.f.s. TOP=357.7 INV.=352.50
<b>CI-1</b> D.A.=0.33 Ac. Cg=7.20 c.f.s. TOP=350.84 INV.=357.25	<b>CI-2</b> D.A.=0.41 Ac. Cg=9.38 c.f.s. TOP=350.84 INV.=357.04	<b>CI-3</b> D.A.=0.49 Ac. Cg=2.61 c.f.s. TOP=354.35 INV.=350.65
<b>CI-4</b> D.A.=0.48 Ac. Cg=4.98 c.f.s. TOP=350.35 INV.=349.75		

- SYMBOLS**
- CURB INLET
  - CONCRETE JUNCTION BOX (SEE SHEET 11)
  - GRATE INLET TYPE S-3 (SEE SHEET 12)
  - TRENCH GRATE

**NOTES:**  
 CONTRACTOR TO STUB CORRUGATED PLASTIC PIPE INTO TRENCH GRATE AND GROUT FIELD ADJUSTMENT OF TRENCH WIDTH AT PIPE CONNECTION AS REQUIRED.







**CONSTRUCTION REQUIREMENTS**

The following construction requirements for this project is planned to minimize the amount of sediment transported on site and adjacent, both during the project site.

**A. Stormwater**

The grading work will include removal of excess material and handling as required by the jurisdictional report.

**B. Erosion**

Silt fences shall be placed at the down slope edge of all graded areas and around the perimeter of all storm drain inlets and existing local culverts. The silt fence shall be installed in the following sequence to minimize soil movement and loss.

Install silt fences in accordance with manufacturers recommendations.

Place a silt fence barrier (six feet on each side) around each storm drain inlet as soon as it is installed.

Remove all silt fences from storm drain inlets when area is ready for final preparation and placement of surface topping. Remove silt fence from road culvert openings when the required grading, mulching and landscaping are complete.

Refer to sheet \_\_\_ of \_\_\_ for all fence details.

**C. Stormwater**

Install the storm-drain system to the grades and elevations of the lotlines shown on the plans. Care shall be taken to minimize movement of sediment into the storm drain inlets until the surrounding area surface topping is applied. A perimeter silt fence around to drain inlets is the recommended method of inlet protection.

Refer to sheet \_\_\_ of \_\_\_ for temporary erosion control systems.

**D. Vegetation**

Vegetate and/or landscape all curb, slope, and disturbed areas as soon as possible during the construction operations.

**MAINTENANCE PLAN**

Both the short-term (during construction) and long-term (after construction) maintenance needs must be addressed.

**A. Silt Fences**

All erosion and sediment-control practices will be checked for stability and operation following every runoff producing rainfall, but in no case less than every week. Any needed repairs will be made immediately to maintain the practice performance as designed.

Sediment will be removed from the upstream face of the silt fence when it increases to about six-inch depth of the fence. The silt fence will be replaced as necessary to maintain a barrier.

All vegetated areas will be fertilized and revegetated as needed to maintain a vigorous and dense vegetative cover.

All drainage structures that will be exposed to stormwater run-off during construction shall receive temporary erosion checks (Hay Bales). Refer to sheet \_\_\_ for details.

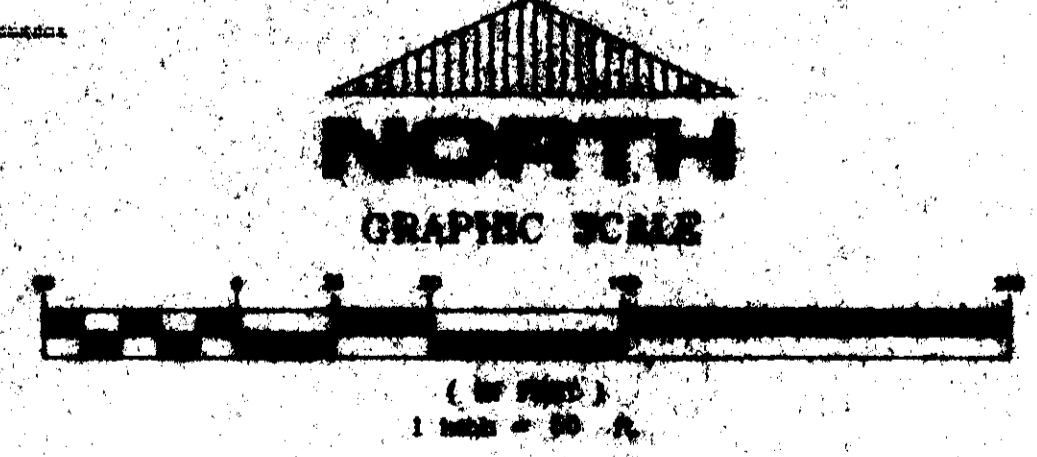
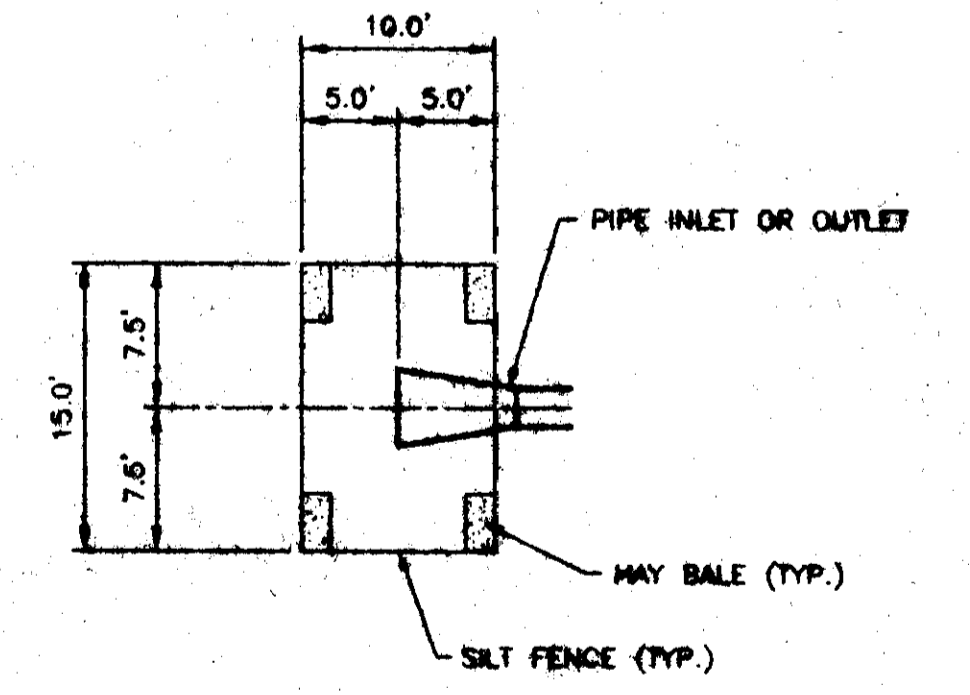
**B. Hay Bales**

All vegetative areas will be maintained in adequate condition to provide proper ground cover and reduce any areas of potential erosion. Where vegetation is lost, the area will be fertilized and seeded or other acceptable methods used to restore proper cover.

**NOTE:**

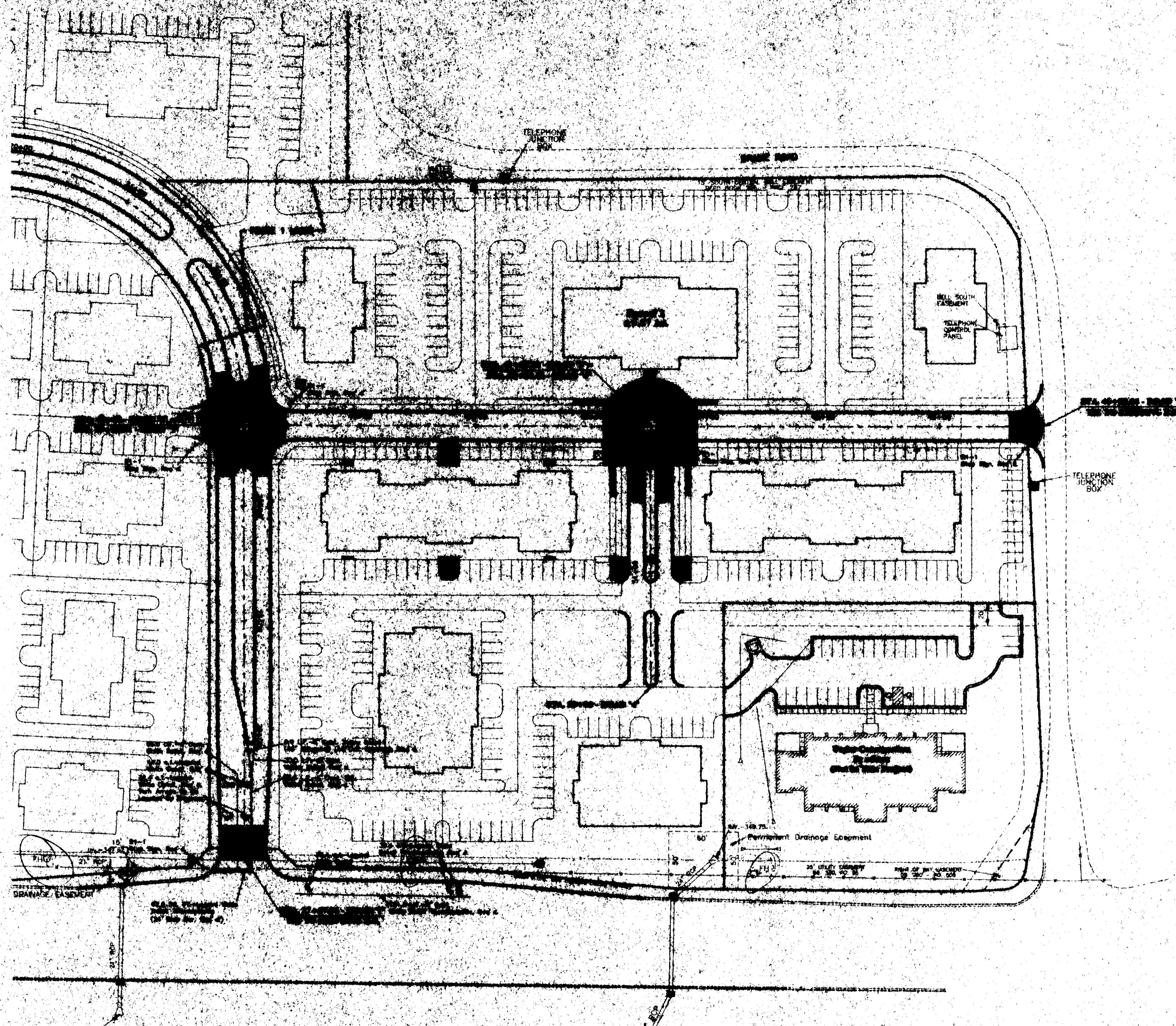
Synthetic filter fabric shall be a pervious sheet of propylene nylon, polyester and shall be certified by the manufacturer or supplier and conform to the following requirements:

- Filtering efficiency (75% minimum)
- Tensile strength that 75% maximum elongation=50 lbs./sq. ft. (minimum)
- Flow rate=0.3 gal./sq. ft./min. (minimum)

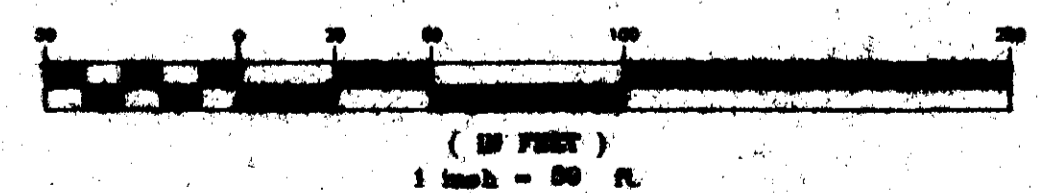


**EROSION CONTROL BARRIER DETAIL**  
SCALE: 1" = 10'-0"





**NORTH**  
GRAPHIC SCALE



DESIGNED BY RICHARD SOMERS  
DATE: 08-12-88  
DRAWN BY: [illegible]

PROJECT NO. 88-001  
SHEET NO. 9 OF 10

City of [illegible], Inc.  
[illegible]  
[illegible]

**THE COMMONS, PHASE 1**

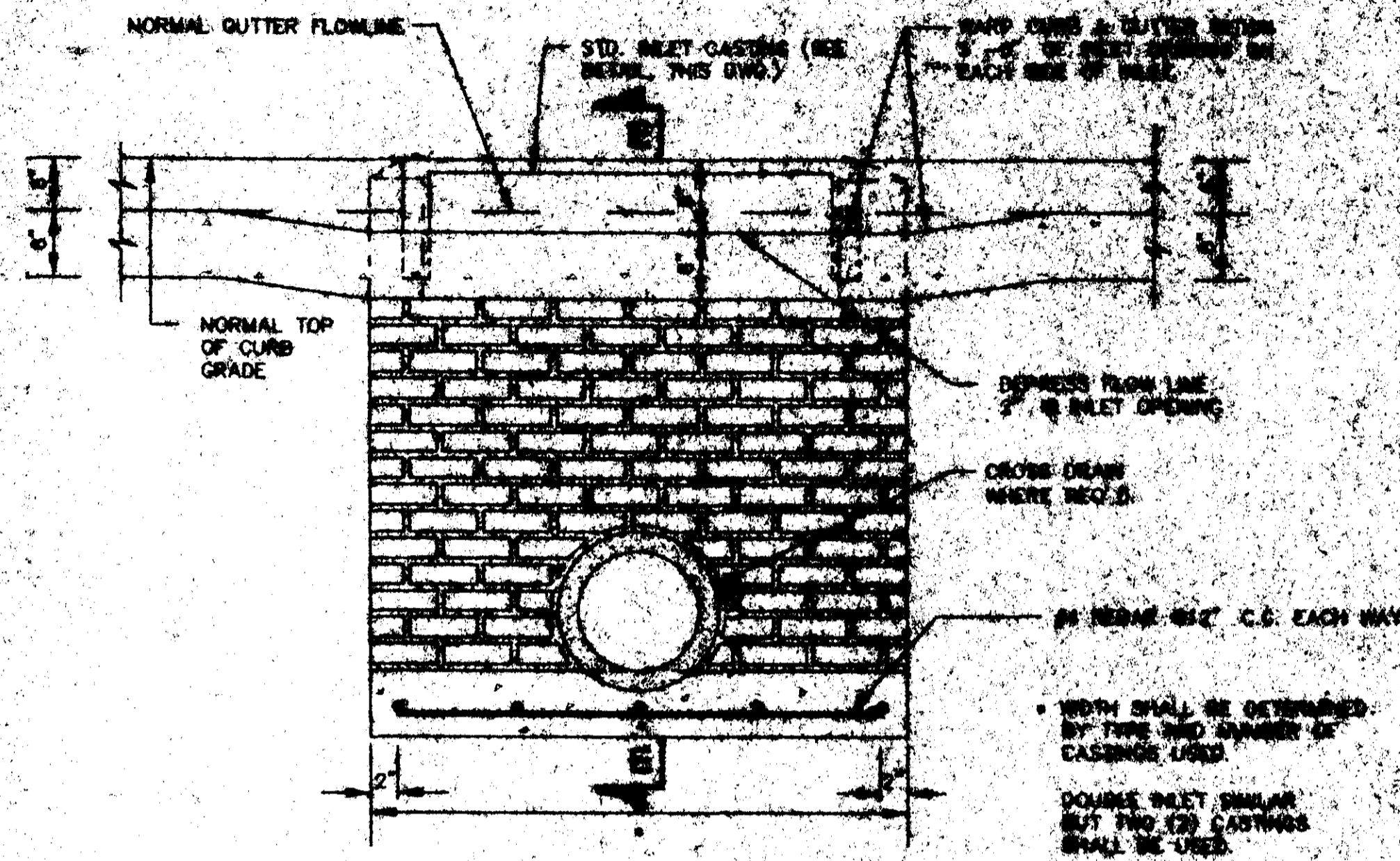
**STRIPING LAYOUT**

SHEET NO. **9**

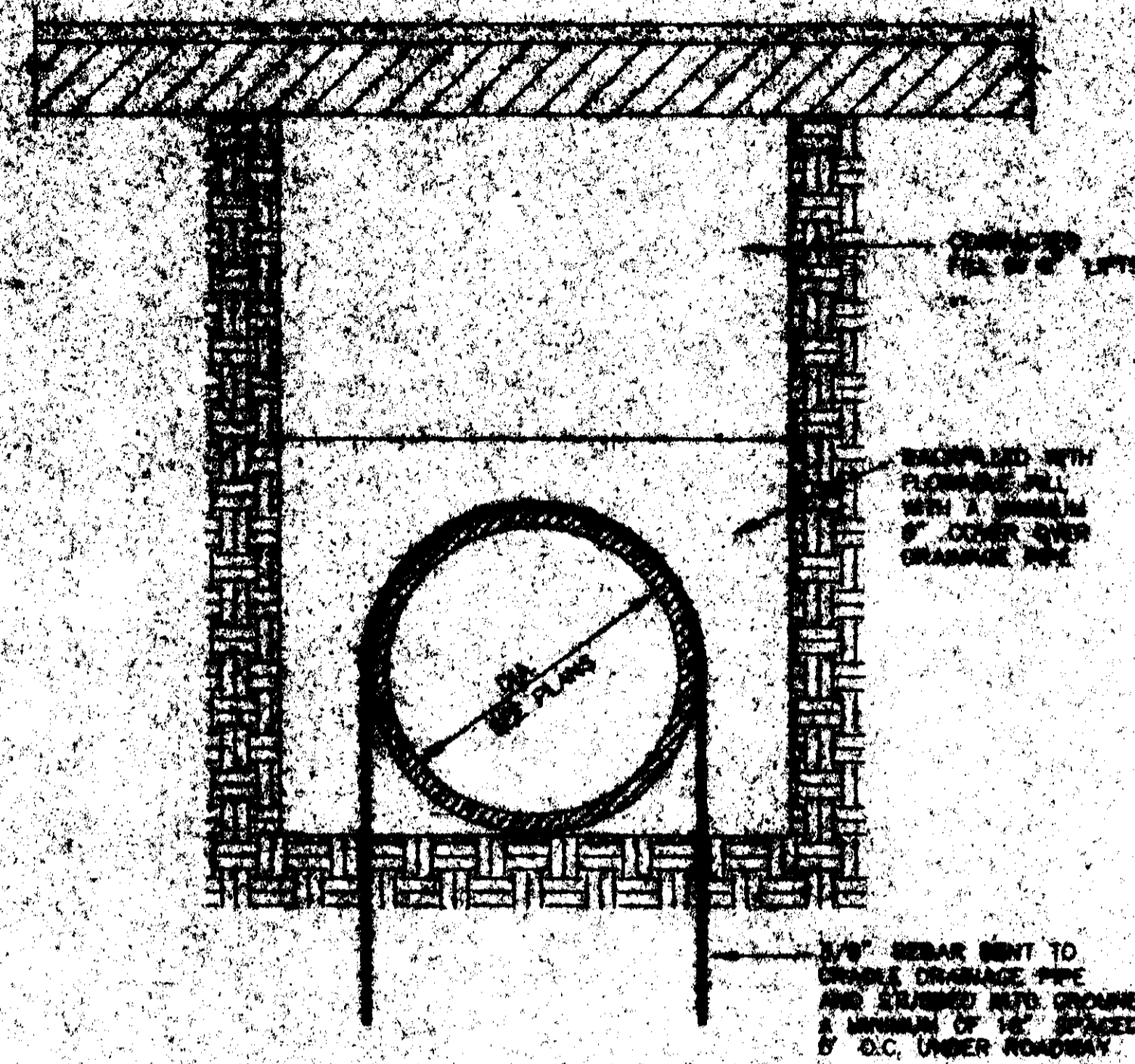




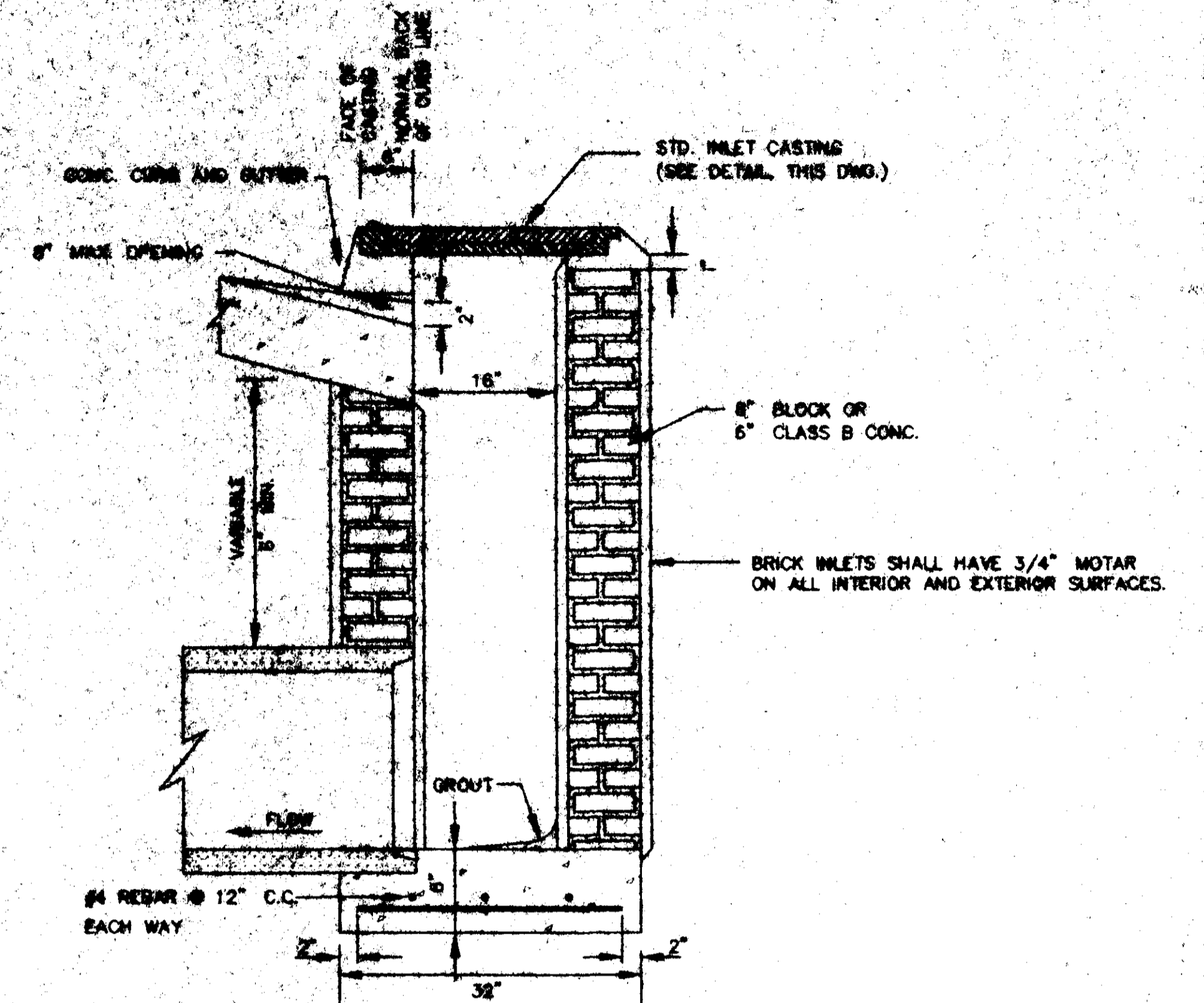




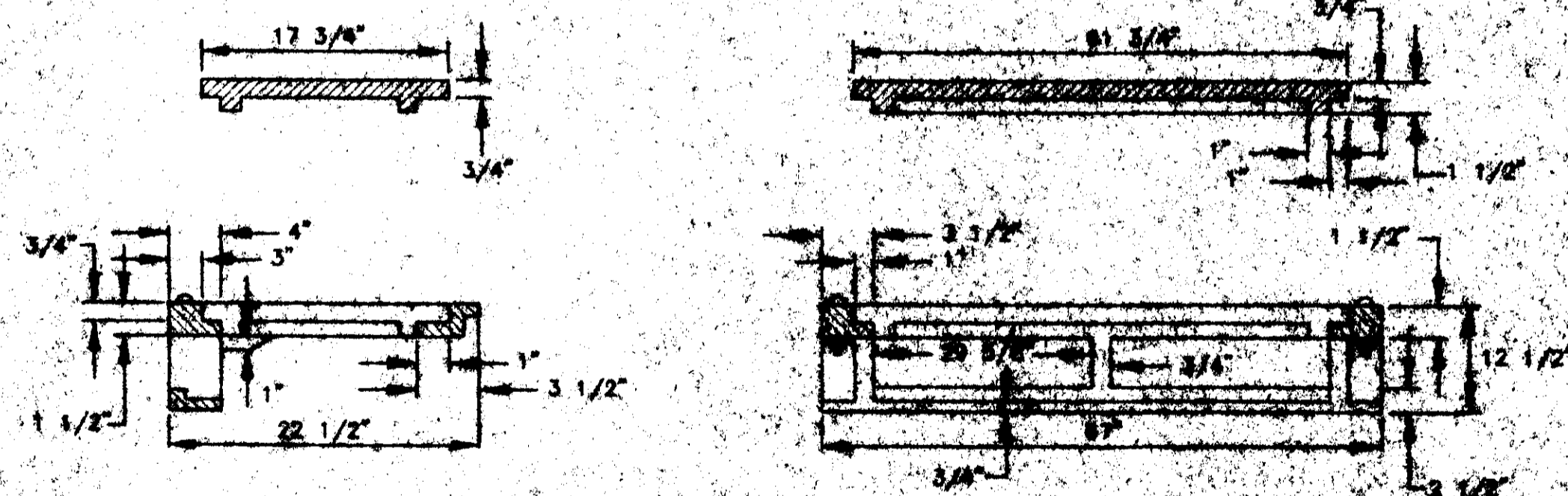
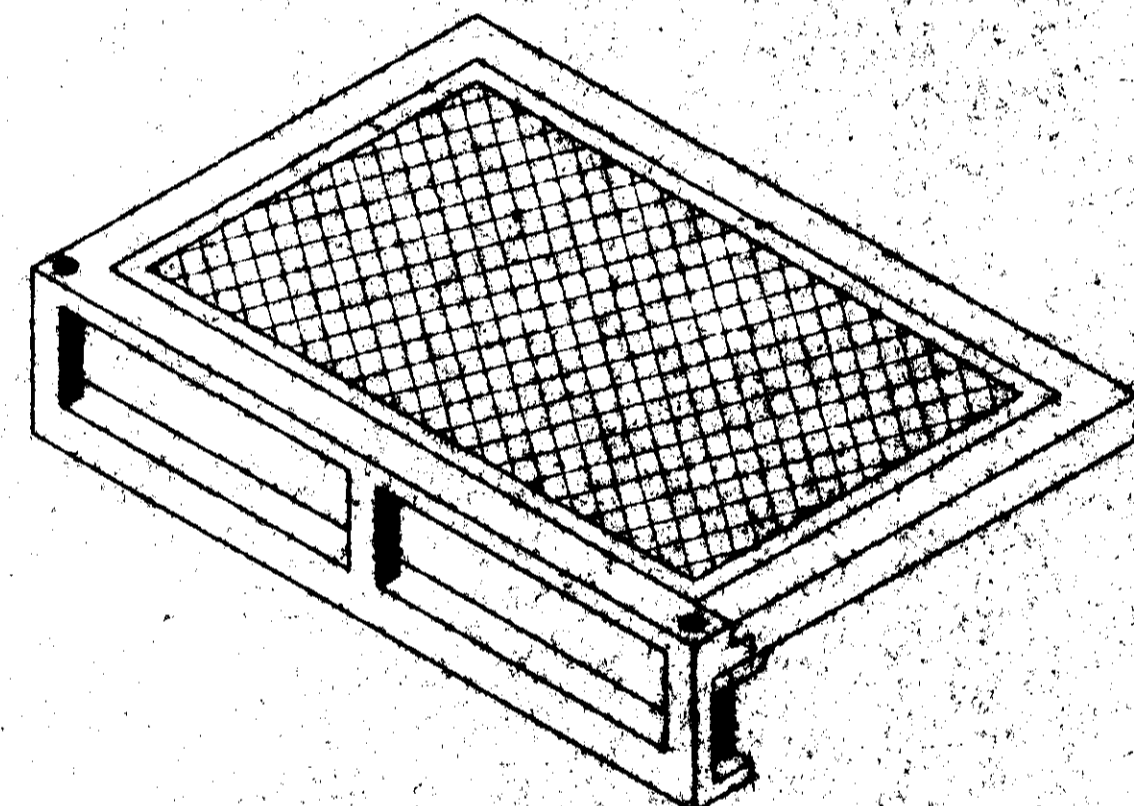
FRONT ELEVATION  
INLET TYPES "A" AND "A" MODIFIED



ROAD CROSSING DETAIL  
N.T.S.

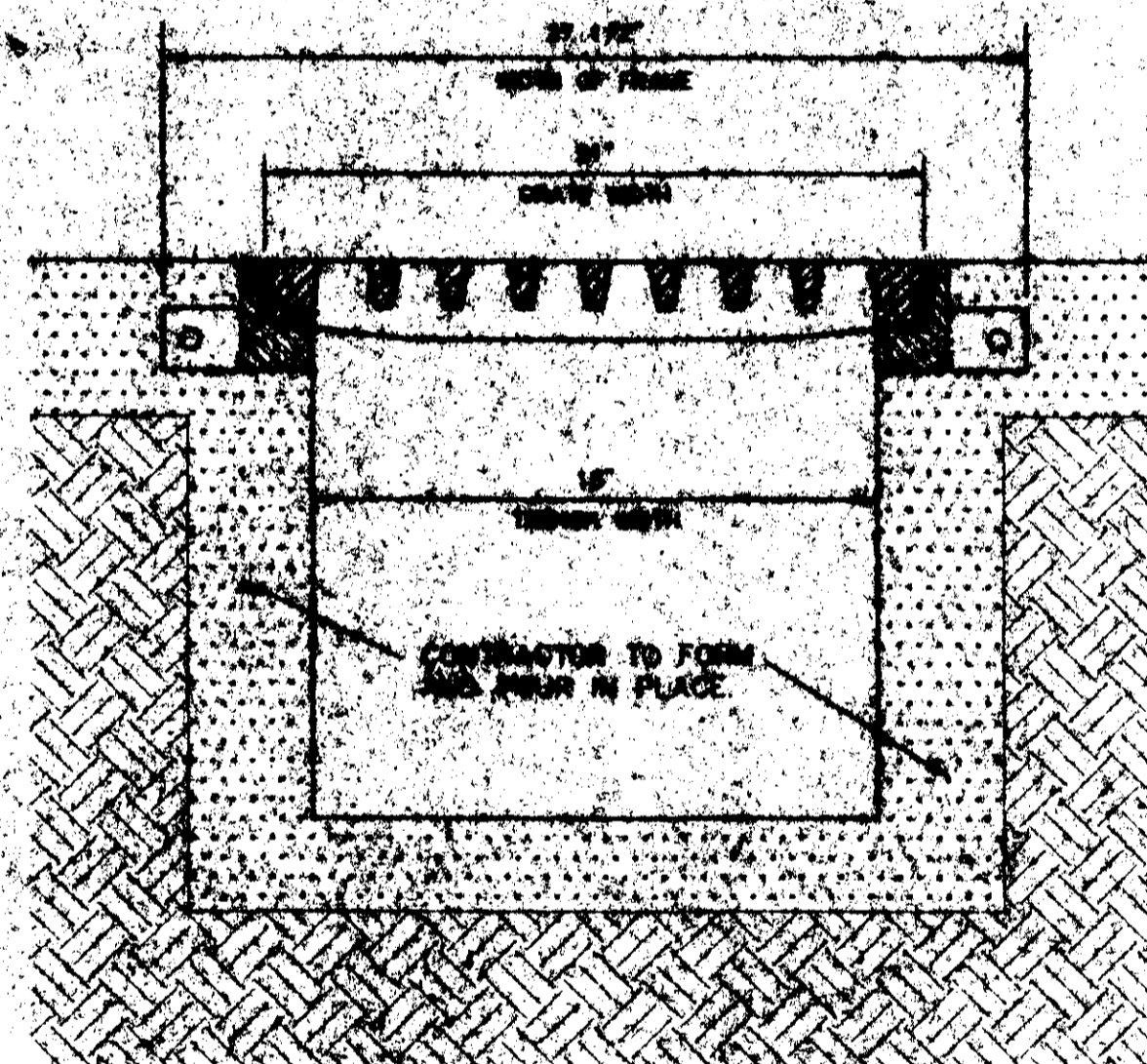


SECTION E - E  
TYPE "A" INLET

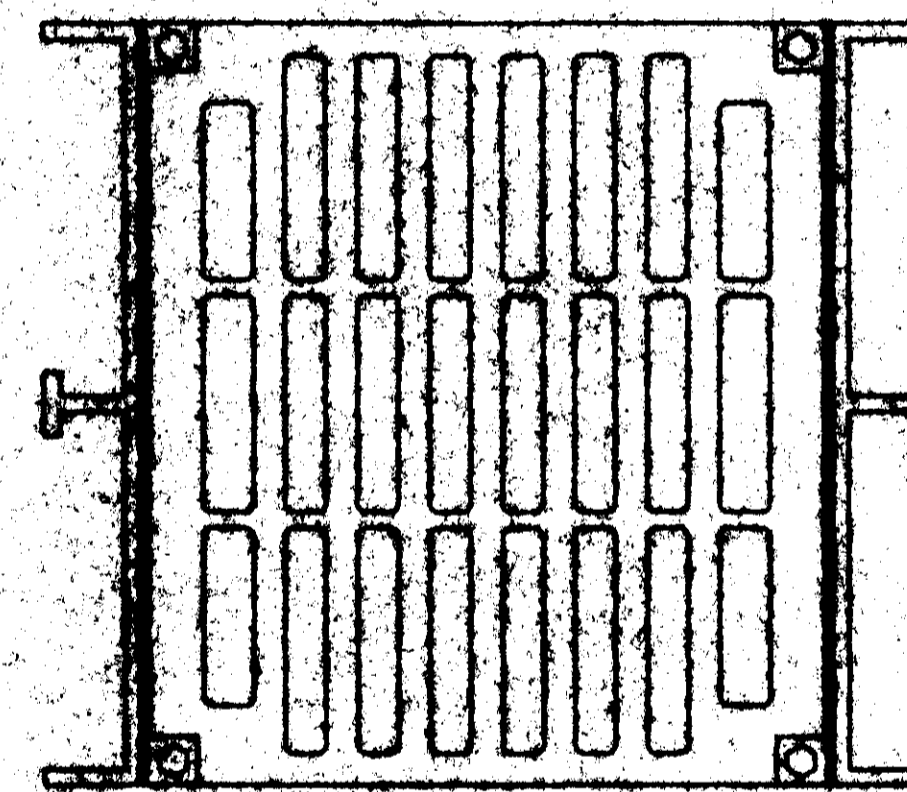


STANDARD CURB INLET CASTING  
(MILCAN 2843-2)  
N.T.S.

NOTE: CONTRACTOR MAY USE PRECAST CONCRETE INLETS

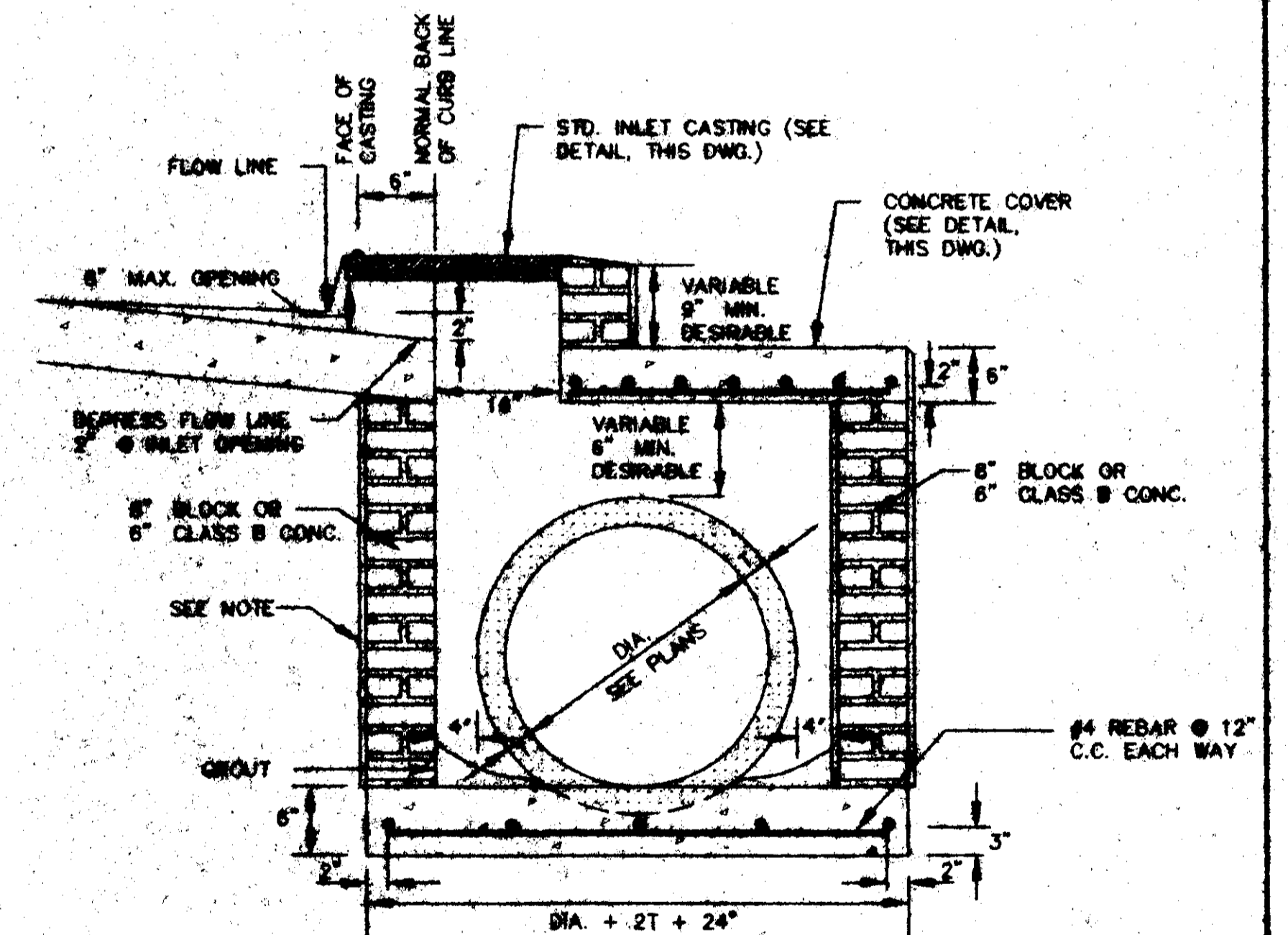


SECTION



PLAN

TRENCH GRATE DETAIL  
EAST JORDAN IRON WORKS  
V-7380 BOLT-DOWN TRENCH  
FRAME AND GRATE SERIES, HEAVY DUTY  
SCALE: 1/8  
(NOTE: PART NO. V-7386 SHOWN)



SECTION E - E  
TYPE "A" MODIFIED

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

PROJECT NO.	DATE
SCALE	DATE

THE COMMONS, PHASE I

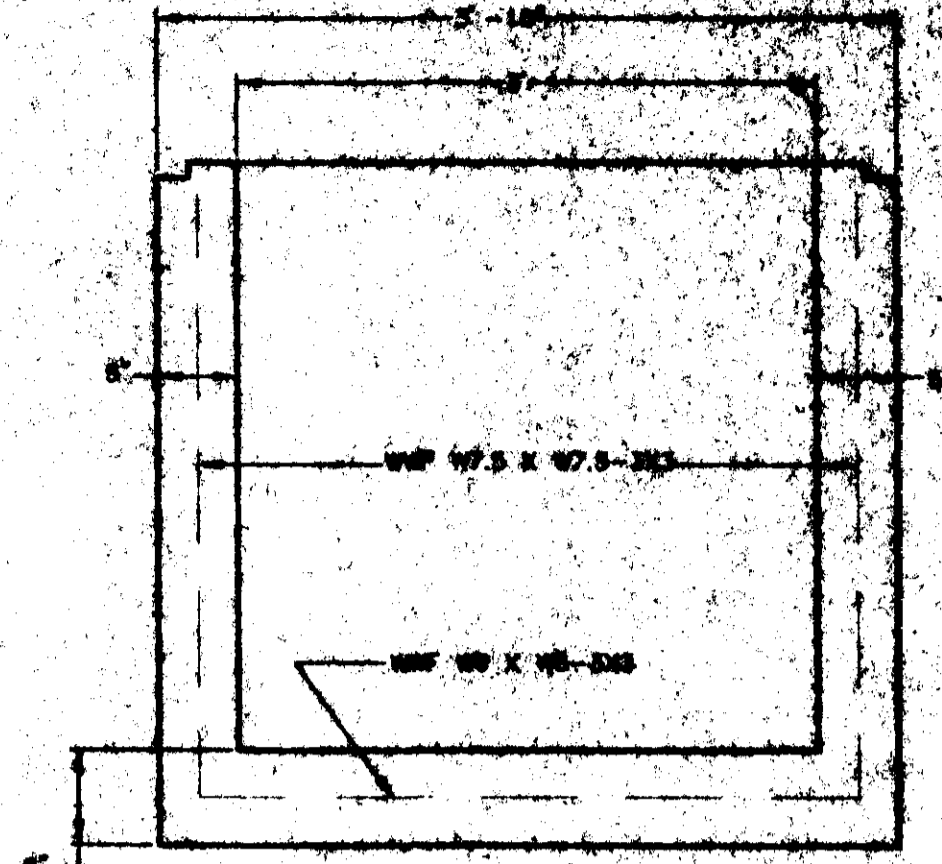
STORM DRAIN DETAILS

11

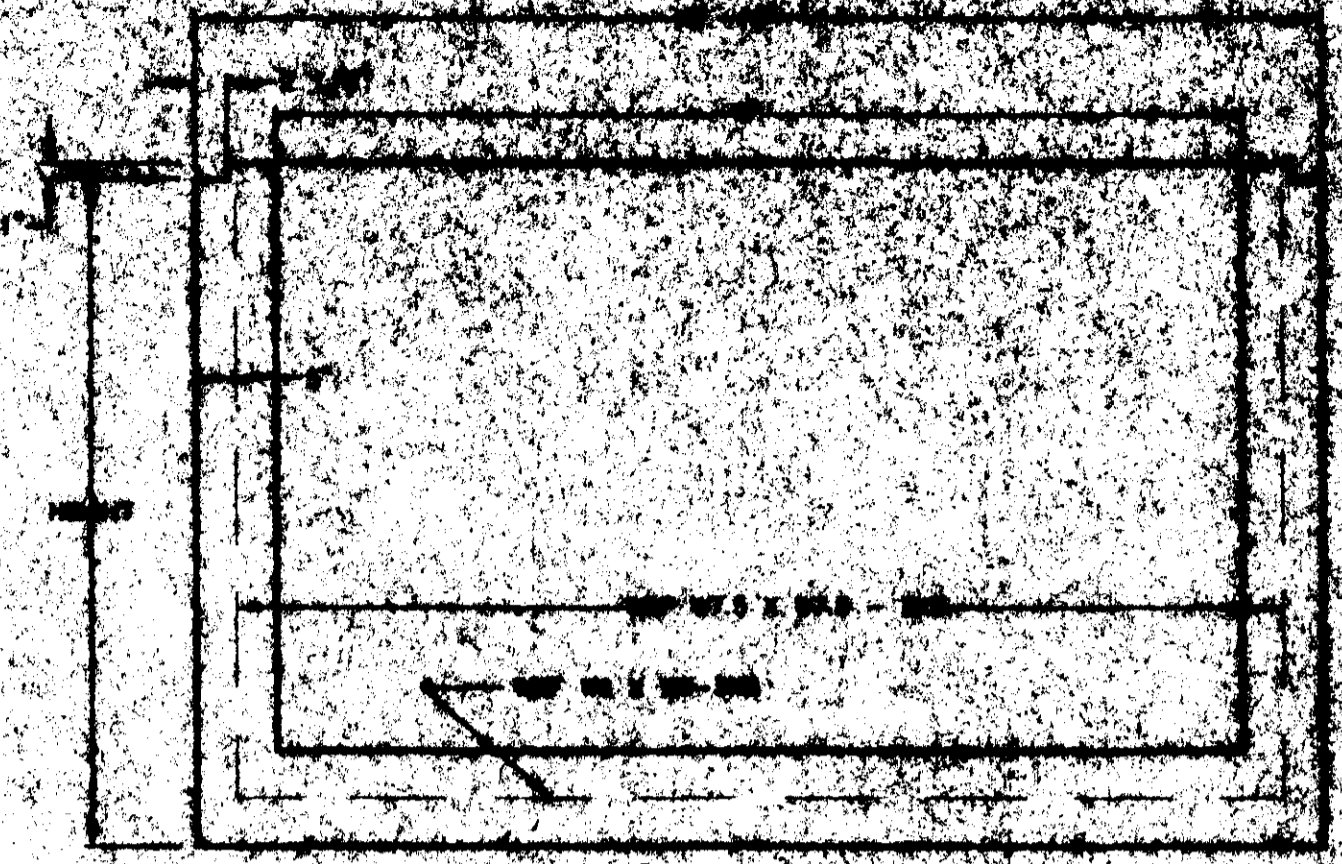


REVISIONS

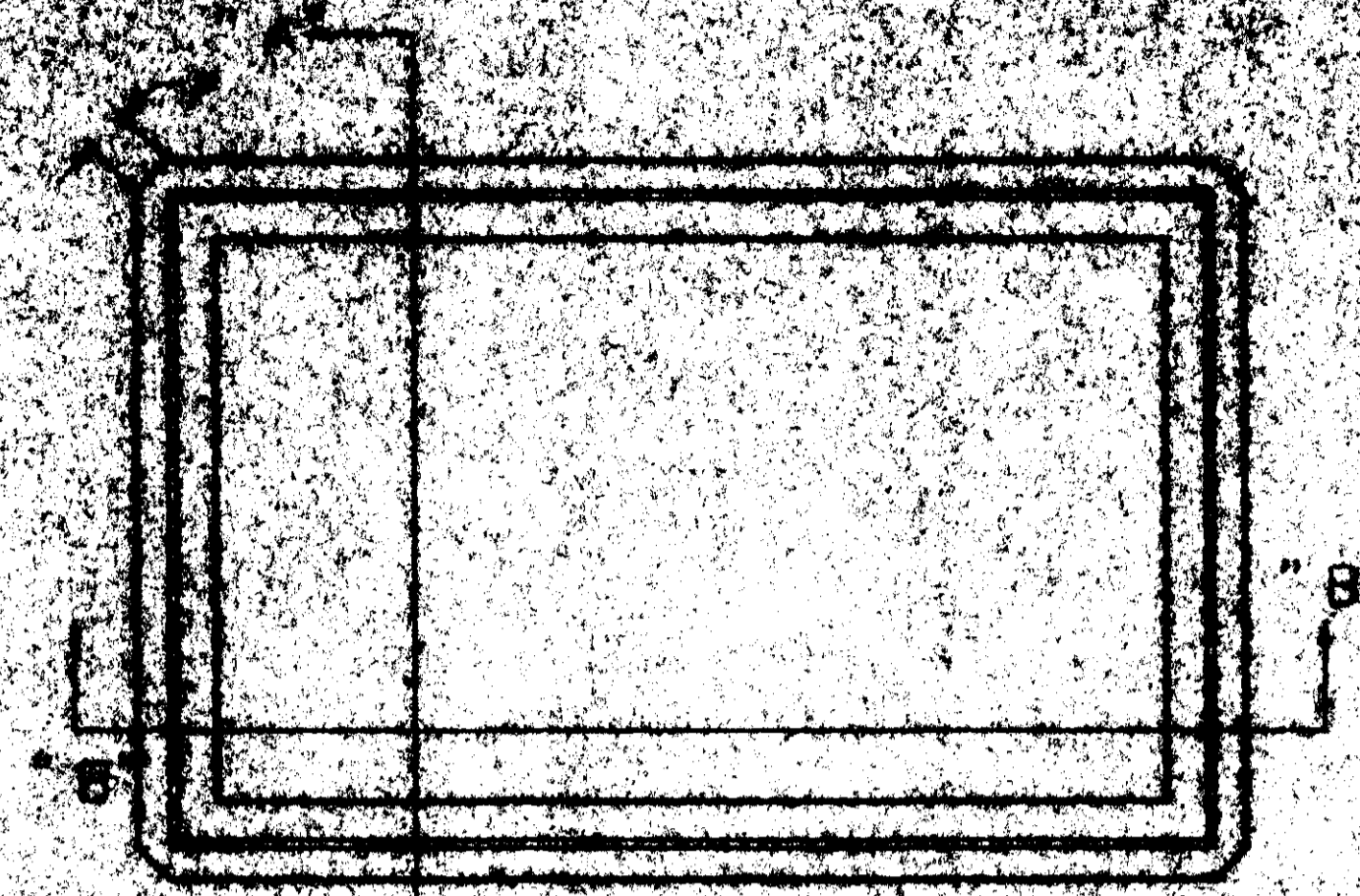
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99	AS SHOWN
100	AS SHOWN



SECTION "A-A"

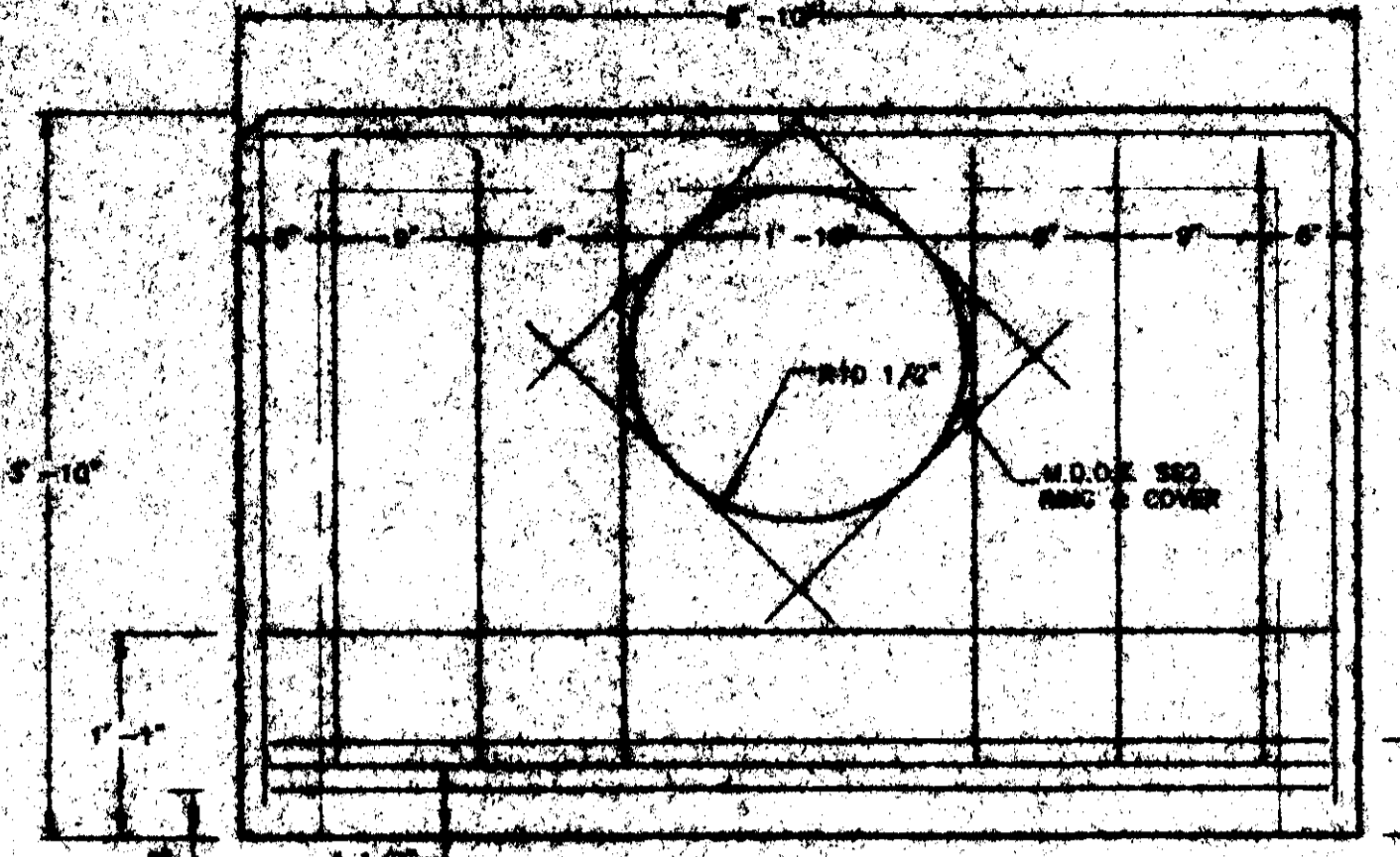


SECTION "B-B"



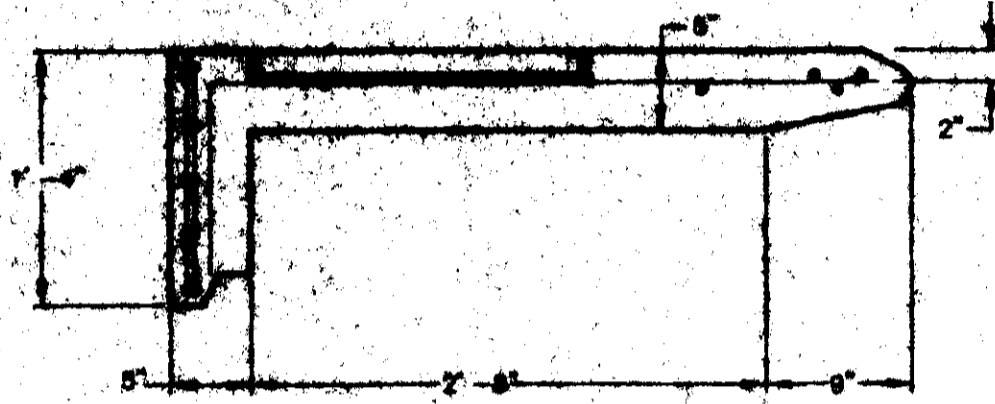
PLAN VIEW - 3'-0" X 5'-0" CURB INLET

3' x 5' CURB INLET



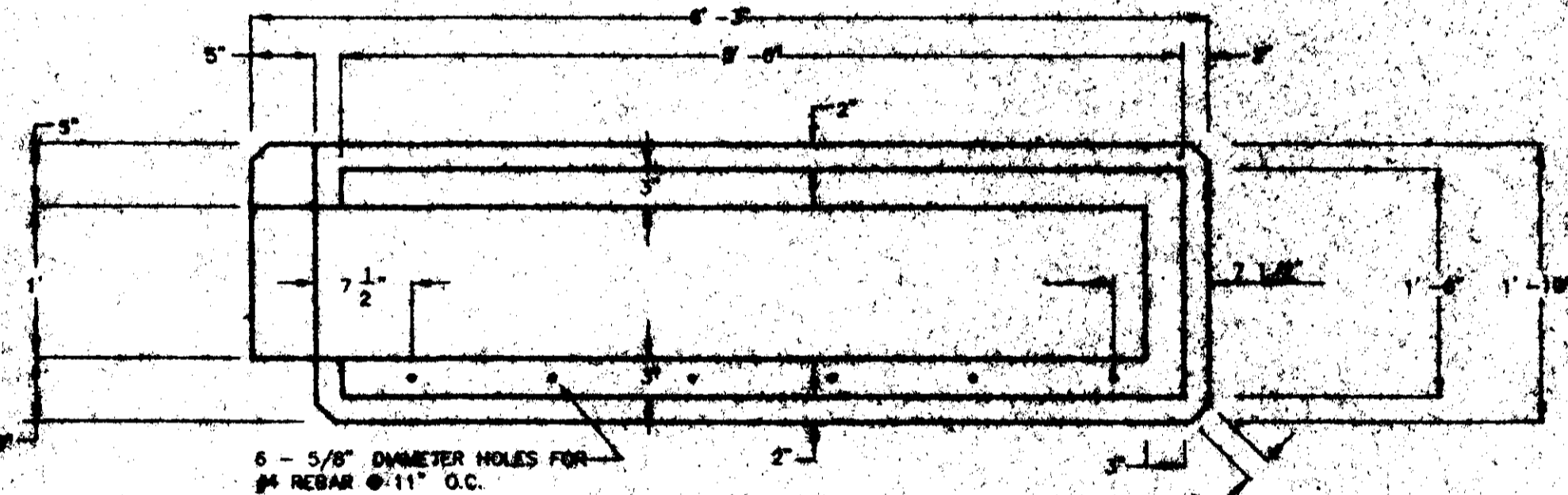
PLAN VIEW

- "A" BARS  
3'-8" | 1'-0"
- #6 REBAR (6) REQ'D
- "J" BARS  
2'-3"
- #4 REBAR (4) REQ'D
- "O" BARS  
5'-6"
- #6 REBAR (1) REQ'D
- "F" BARS  
5'-6"
- #6 REBAR (3) REQ'D
- WWF 3X3 W7.5 / W7.5  
2 ROWS IN SINGLE  
VERTICAL CAGE

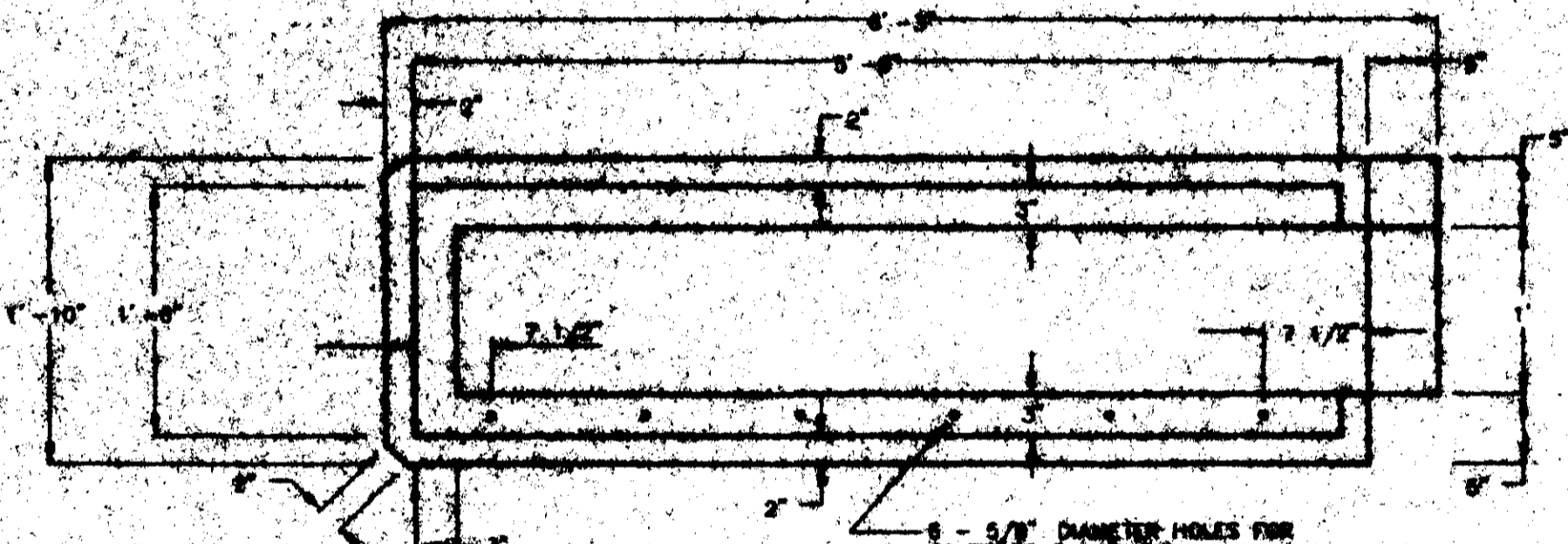


SECTION VIEW

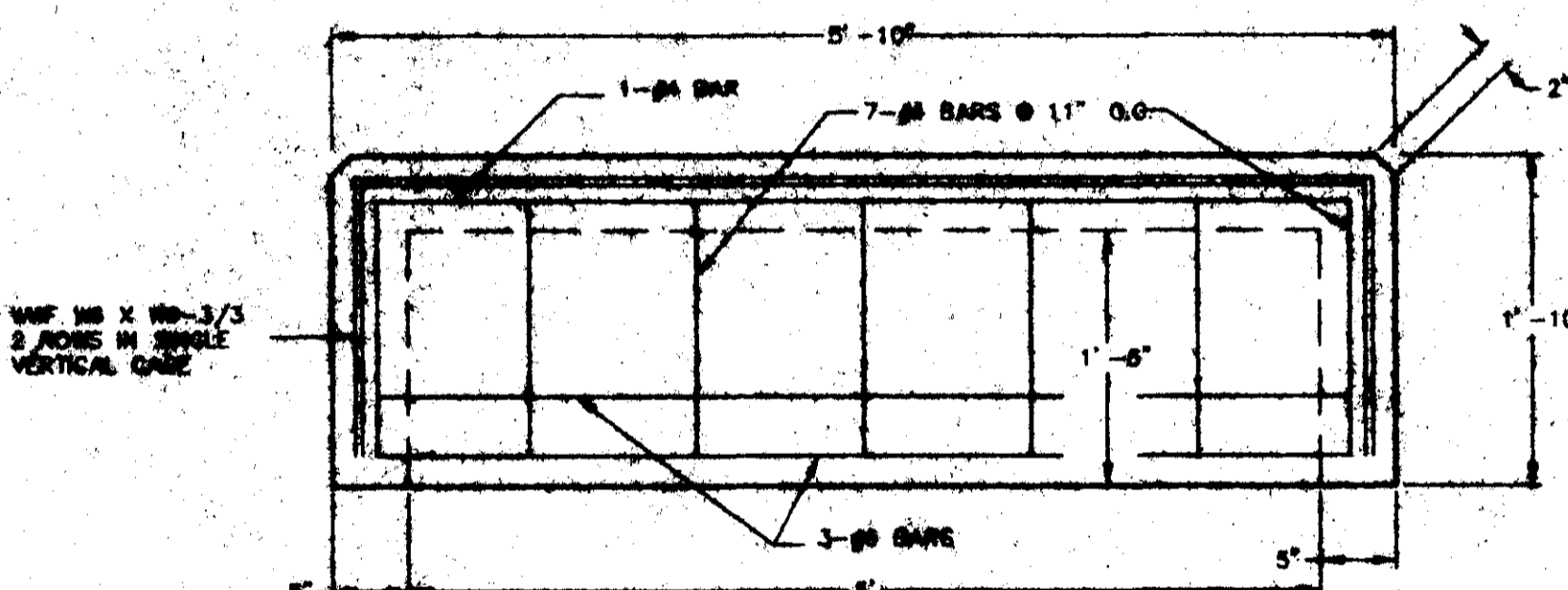
CURB INLET TOP - TYPE 2



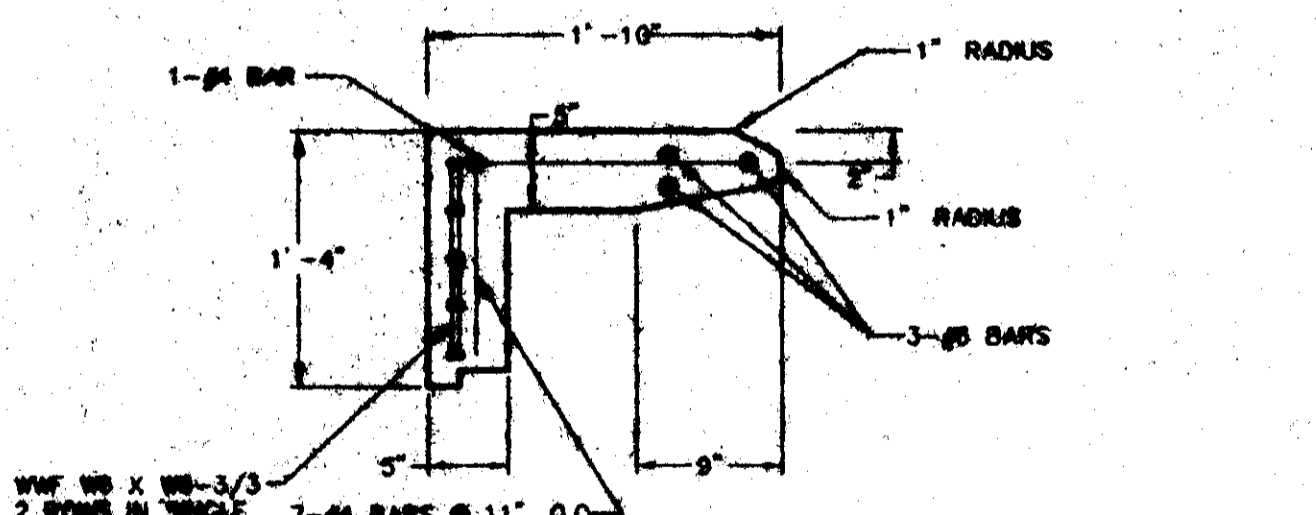
PLAN VIEW



PLAN VIEW

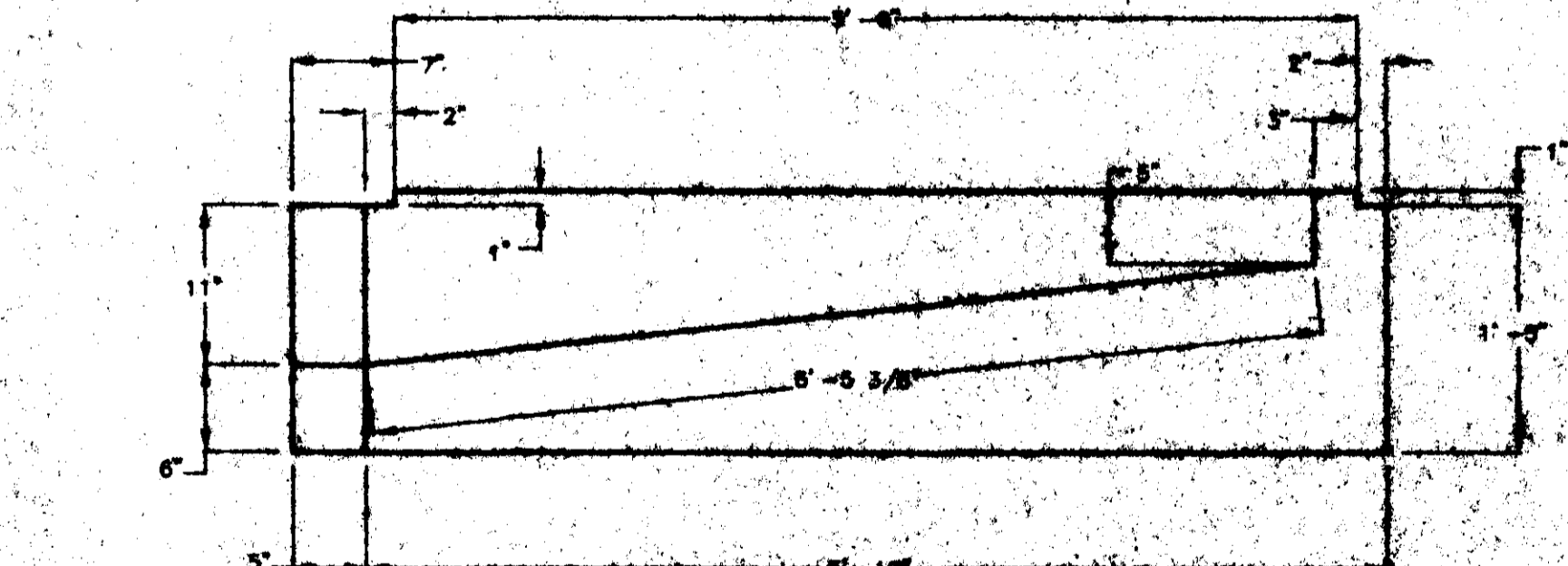


PLAN VIEW-FLAT TOP SLAB-CURB EXTENSION



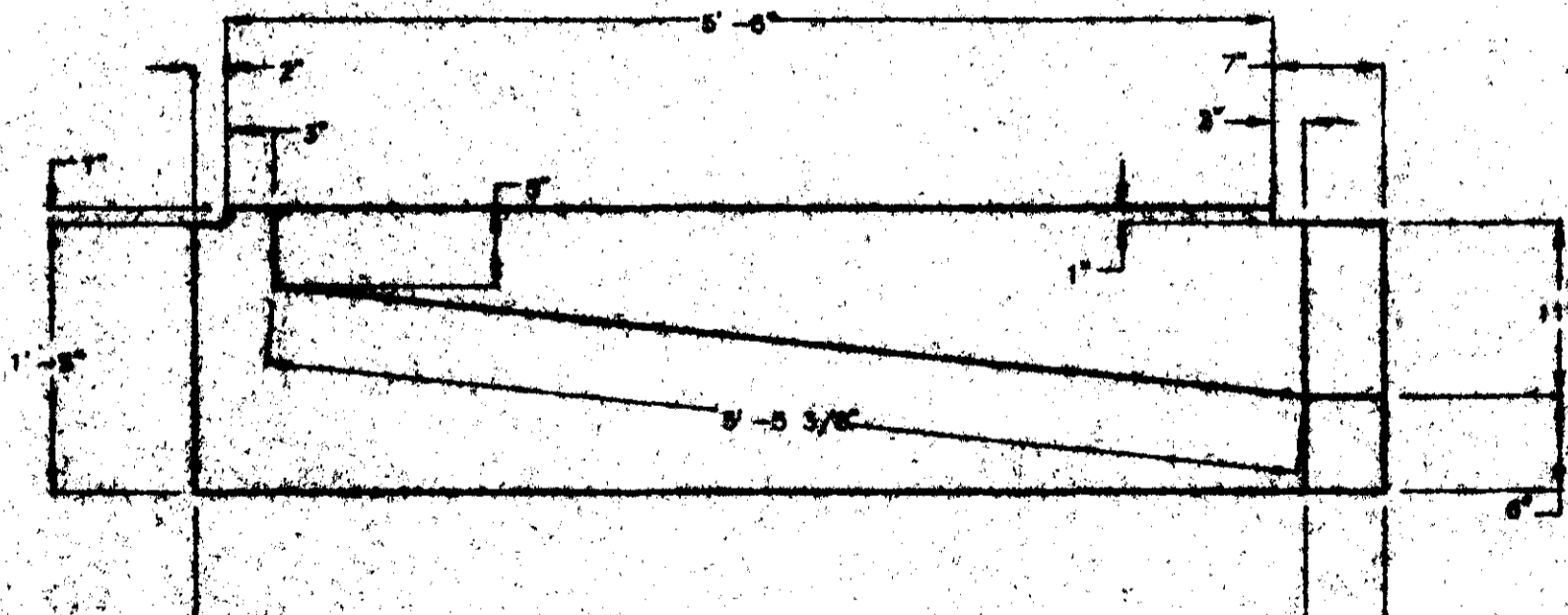
SECTION VIEW

FLAT TOP SLAB CURB EXTENSION



FRONT VIEW

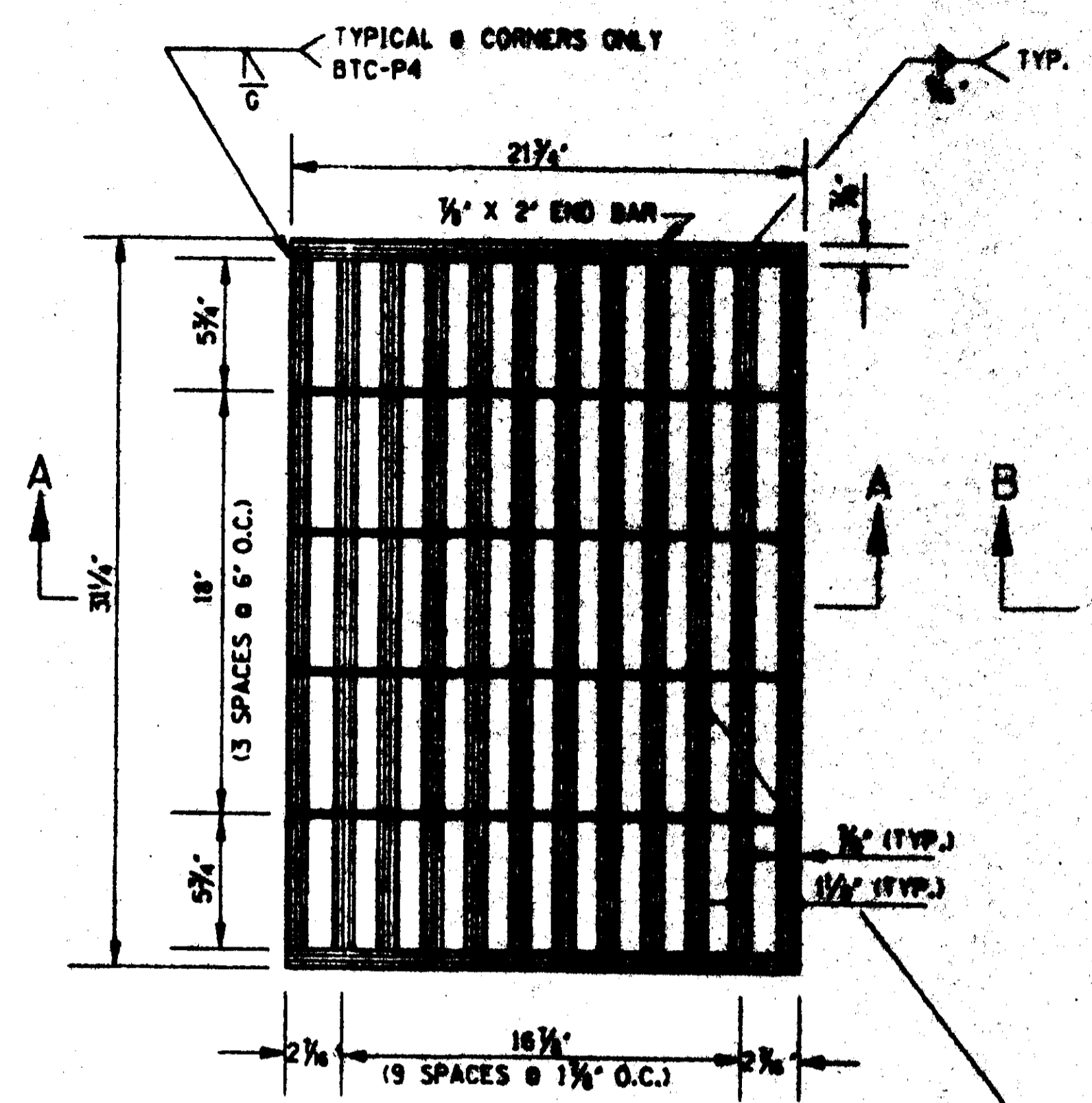
RIGHT CURB INLET EXTENSION



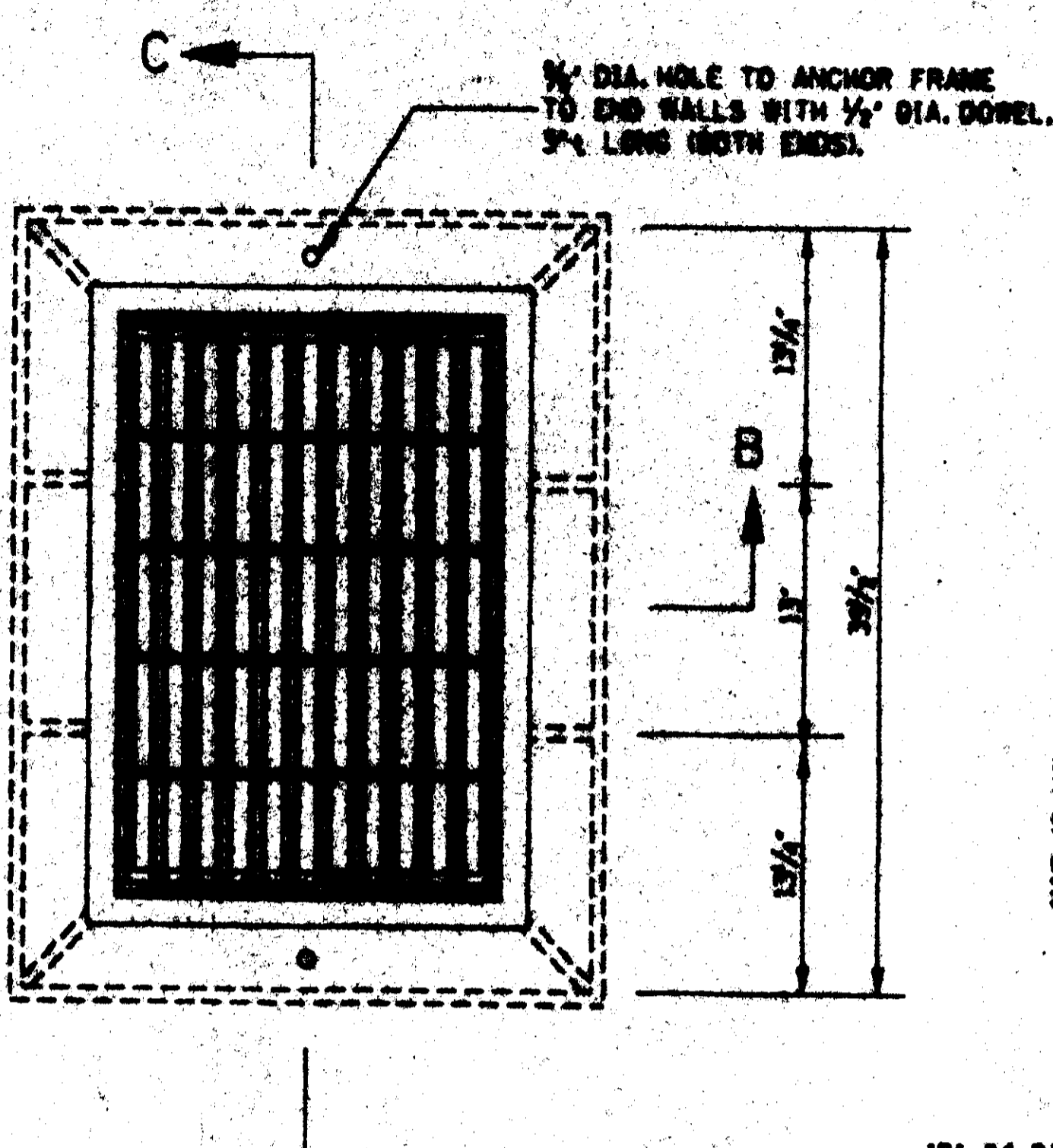
FRONT VIEW

LEFT CURB INLET EXTENSION

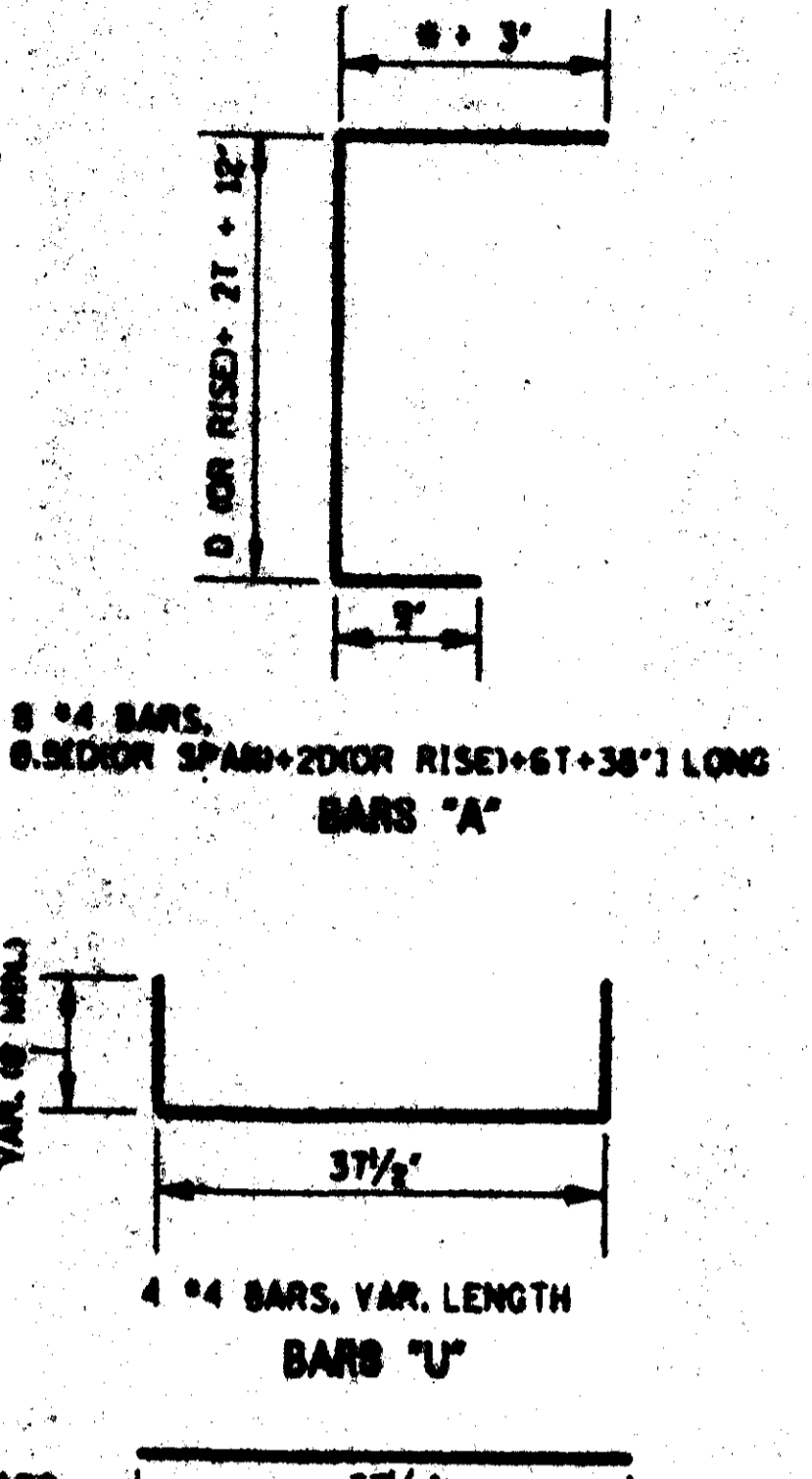




**PLAN OF GRATE NO.1**  
NOTE: FOR OTHER GRATE DETAILS SEE SHEET 10-2.



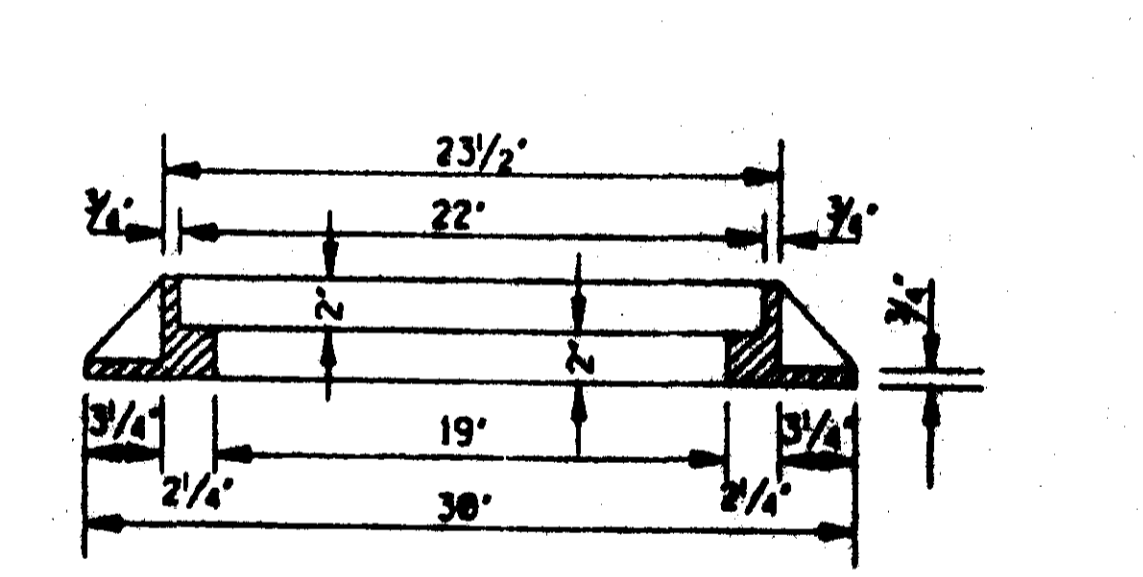
**PLAN OF INLET**



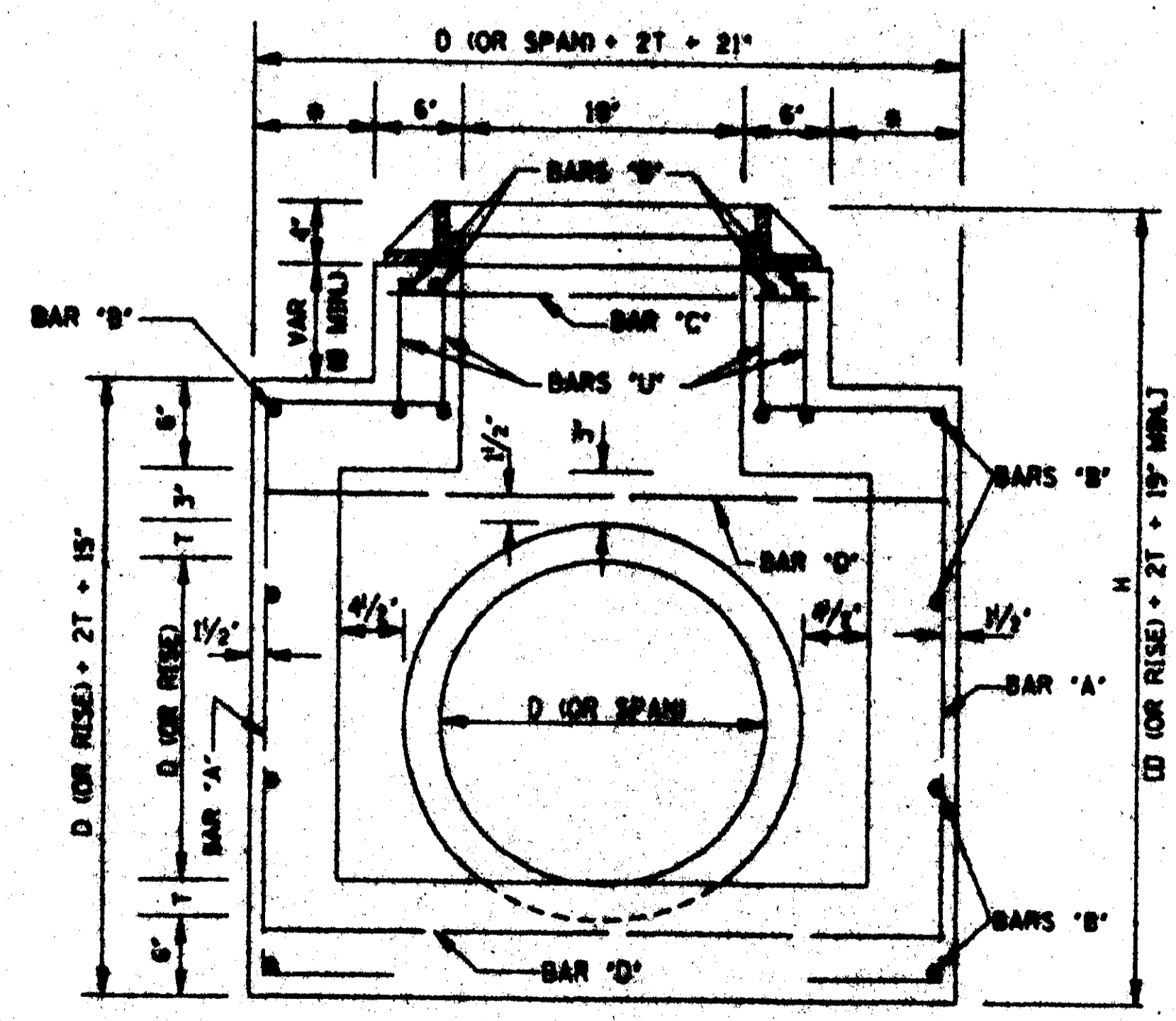
**BAR DETAILS**

PIPE SIZE	MIN. DEPTH TO F.L.	MIN. DEPTH INLET		PIPE OPENING DEDUCTION (yd <sup>3</sup> )	T	BARS/SIZES					
		CONC. (yd <sup>3</sup> )	STEEL (lbs)			'A'		'B'		'C'	'U'
						NO. LGTH.	NO. LGTH.	NO. LGTH.	NO. LGTH.	NO. LGTH.	NO. LGTH.
18"	2.792	0.889	78	0.885	2 1/2'	8 @ 4'-9 1/2"	12 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 3'-5"	4 @ 3'-9 1/2"	
24"	3.334	1.117	87	0.891	3'	8 @ 5'-4"	14 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 4'-0"	4 @ 3'-9 1/2"	
30"	3.875	1.386	94	0.138	3 1/2'	8 @ 6'-2 1/2"	14 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 4'-7"	4 @ 3'-9 1/2"	
36"	4.417	1.671	106	0.198	4'	8 @ 7'-1"	16 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 5'-2"	4 @ 3'-9 1/2"	
42"	4.959	1.978	116	0.263	4 1/2'	8 @ 7'-11 1/2"	18 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 5'-9"	4 @ 3'-9 1/2"	
48"	5.500	2.305	123	0.340	5'	8 @ 8'-10"	18 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 6'-4"	4 @ 3'-9 1/2"	
54"	6.042	2.650	135	0.427	5 1/2'	8 @ 9'-8 1/2"	20 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 6'-11"	4 @ 3'-9 1/2"	
60"	6.583	3.016	146	0.524	6'	8 @ 10'-7"	22 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 7'-6"	4 @ 3'-9 1/2"	
66"	7.125	3.402	153	0.630	6 1/2'	8 @ 11'-5 1/2"	22 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 8'-1"	4 @ 3'-9 1/2"	
72"	7.667	3.806	164	0.747	7'	8 @ 12'-4"	24 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 8'-8"	4 @ 3'-9 1/2"	
22" X 13"	2.417	0.855	76	0.853	2 1/2'	8 @ 4'-3"	12 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 3'-9"	4 @ 3'-9 1/2"	
29" X 18"	2.833	1.086	83	0.887	3'	8 @ 5'-0 1/2"	12 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 4'-4 1/2"	4 @ 3'-9 1/2"	
36" X 23"	3.250	1.388	94	0.129	3 1/2'	8 @ 5'-10"	14 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 5'-1"	4 @ 3'-9 1/2"	
44" X 27"	3.658	1.631	101	0.185	4'	8 @ 6'-7 1/2"	14 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 5'-10"	4 @ 3'-9 1/2"	
51" X 31"	4.066	1.942	113	0.245	4 1/2'	8 @ 7'-5 1/2"	16 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 6'-6"	4 @ 3'-9 1/2"	
58" X 36"	4.488	2.269	120	0.310	5'	8 @ 8'-3"	16 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 7'-2 1/2"	4 @ 3'-9 1/2"	
65" X 40"	4.875	2.675	130	0.394	5 1/2'	8 @ 9'-0"	18 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 7'-10"	4 @ 3'-9 1/2"	
73" X 45"	5.253	2.984	139	0.489	6'	8 @ 9'-10 1/2"	18 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 8'-7"	4 @ 3'-9 1/2"	
80" X 54"	6.167	3.765	156	0.688	7'	8 @ 11'-5"	20 @ 3'-1 1/2"	2 @ 2'-4"	6 @ 10'-0"	4 @ 3'-9 1/2"	

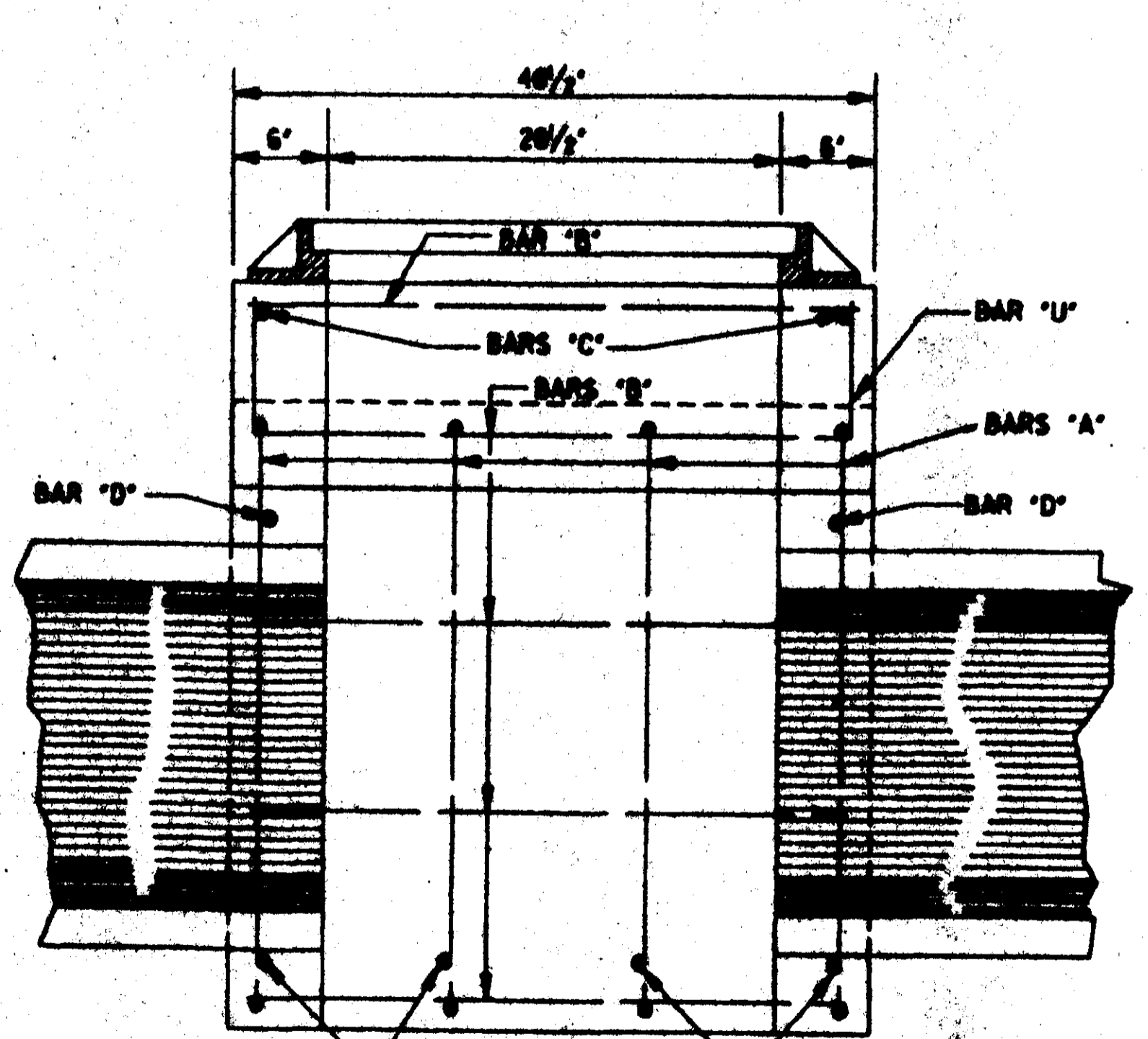
- NOTES:
- ONE (1) PIPE OPENING HAS BEEN DEDUCTED FROM THE STRUCTURE.
  - FOR EACH ADDITIONAL FOOT OF INLET HEIGHT, ADD 0.184 yd<sup>3</sup> CLASS 'B' CONCRETE AND 17 lbs REINFORCING STEEL.
  - 4 BARS 'B' AND 2 BARS 'C' REQUIRED PER EACH ADDITIONAL FOOT OF INLET HEIGHT.
  - WEIGHT OF FRAME CASTING = 244 lbs.  
WEIGHT OF GRATE = SEE SHEET 10-2.



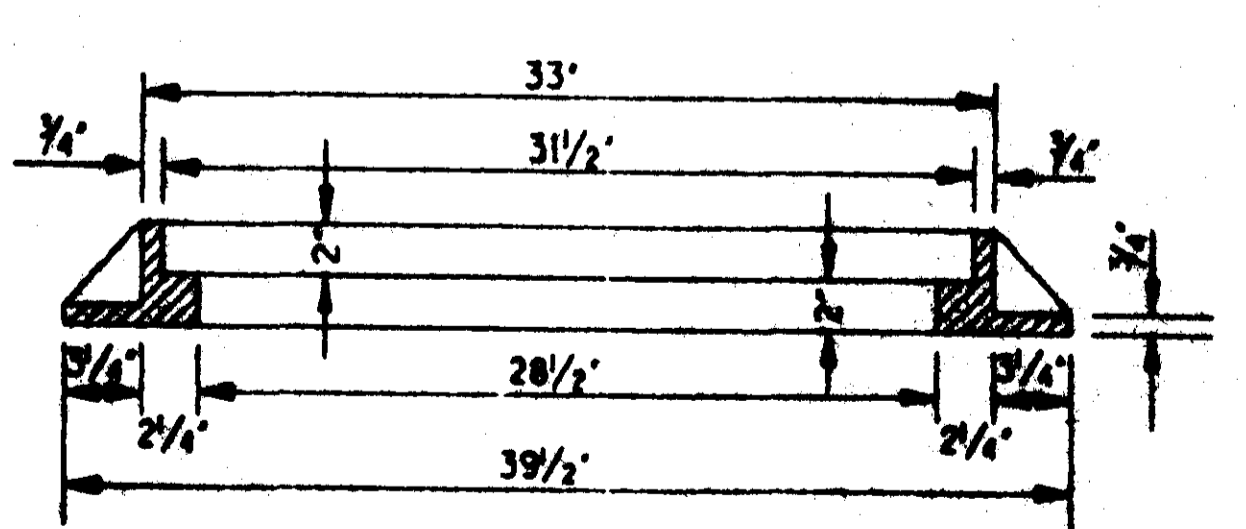
**SECTION B-B (FRAME)**



**SECTION B-B**




**SECTION C-C**

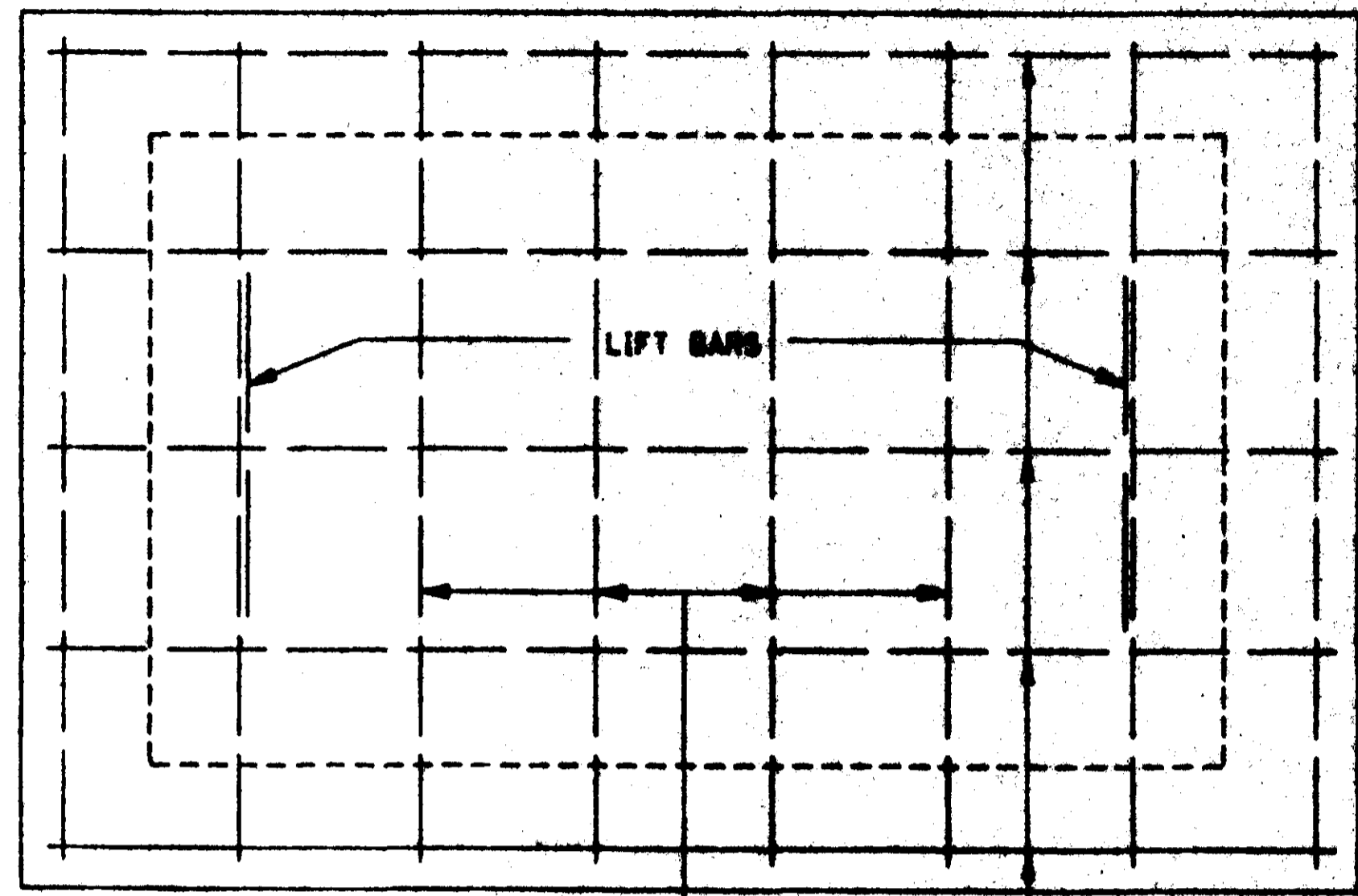


**SECTION C-C (FRAME)**

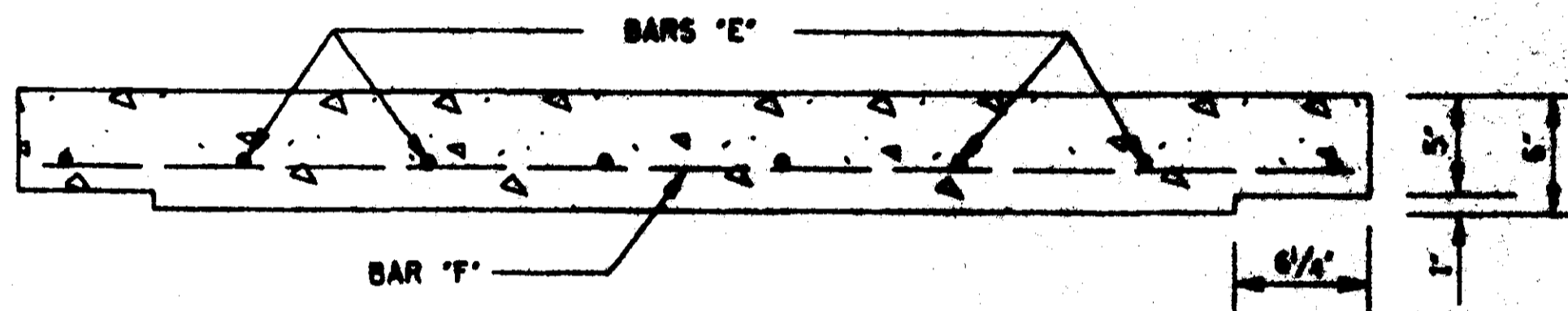
- GENERAL NOTES:
- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
  - CONCRETE SHALL BE CLASS 'B' CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.
  - THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET 10-2.
  - FRAME TO BE GRAY IRON CASTING, (AASHTO M 105, CLASS 30).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN		
<b>STORM SEWER INLET TYPE SS-3</b>		
ISSUE DATE:	OCTOBER 1, 1998	WORKING NUMBER SS-3
REVISION		SHEET NUMBER 13

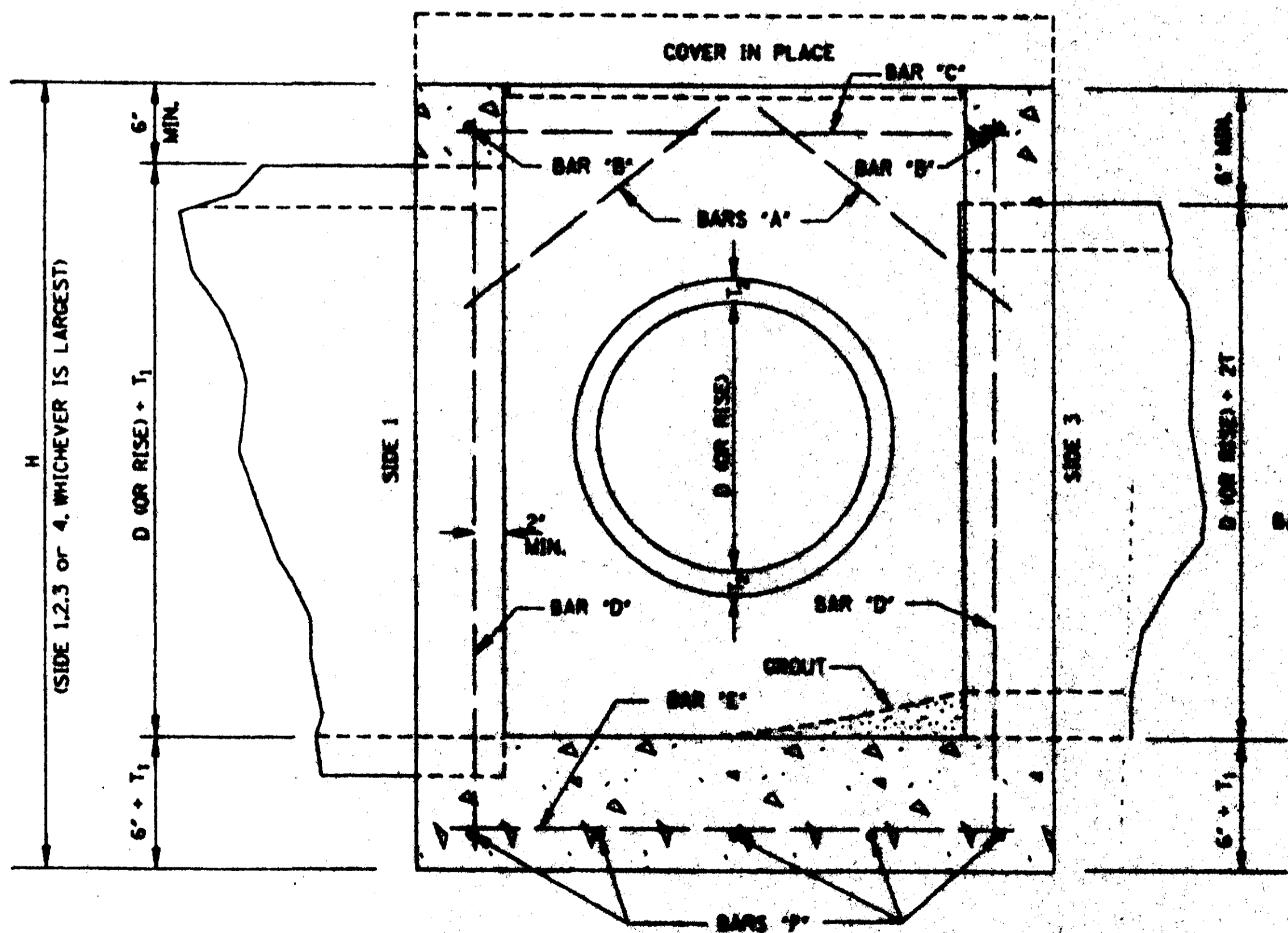




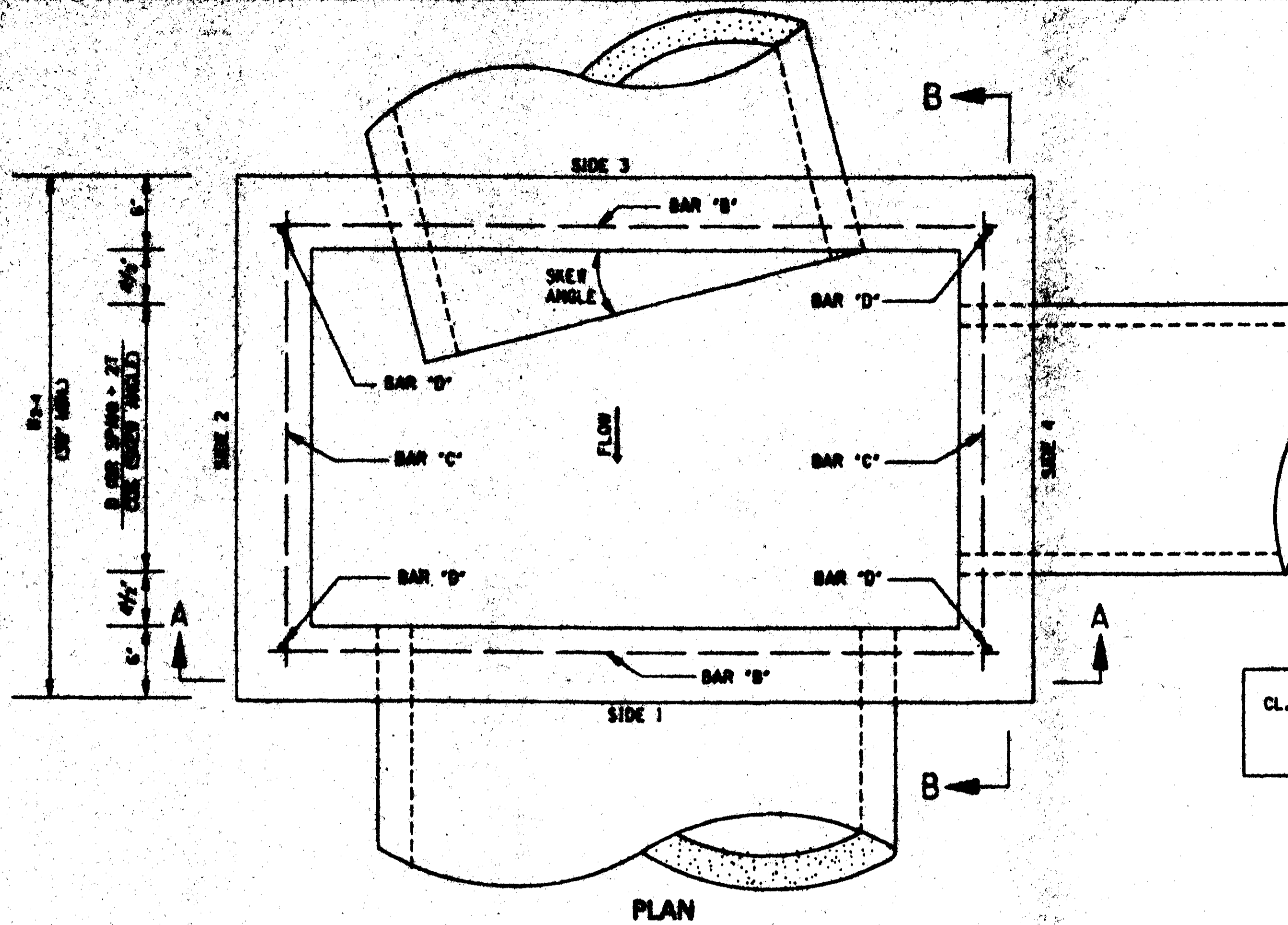
PLAN OF COVER



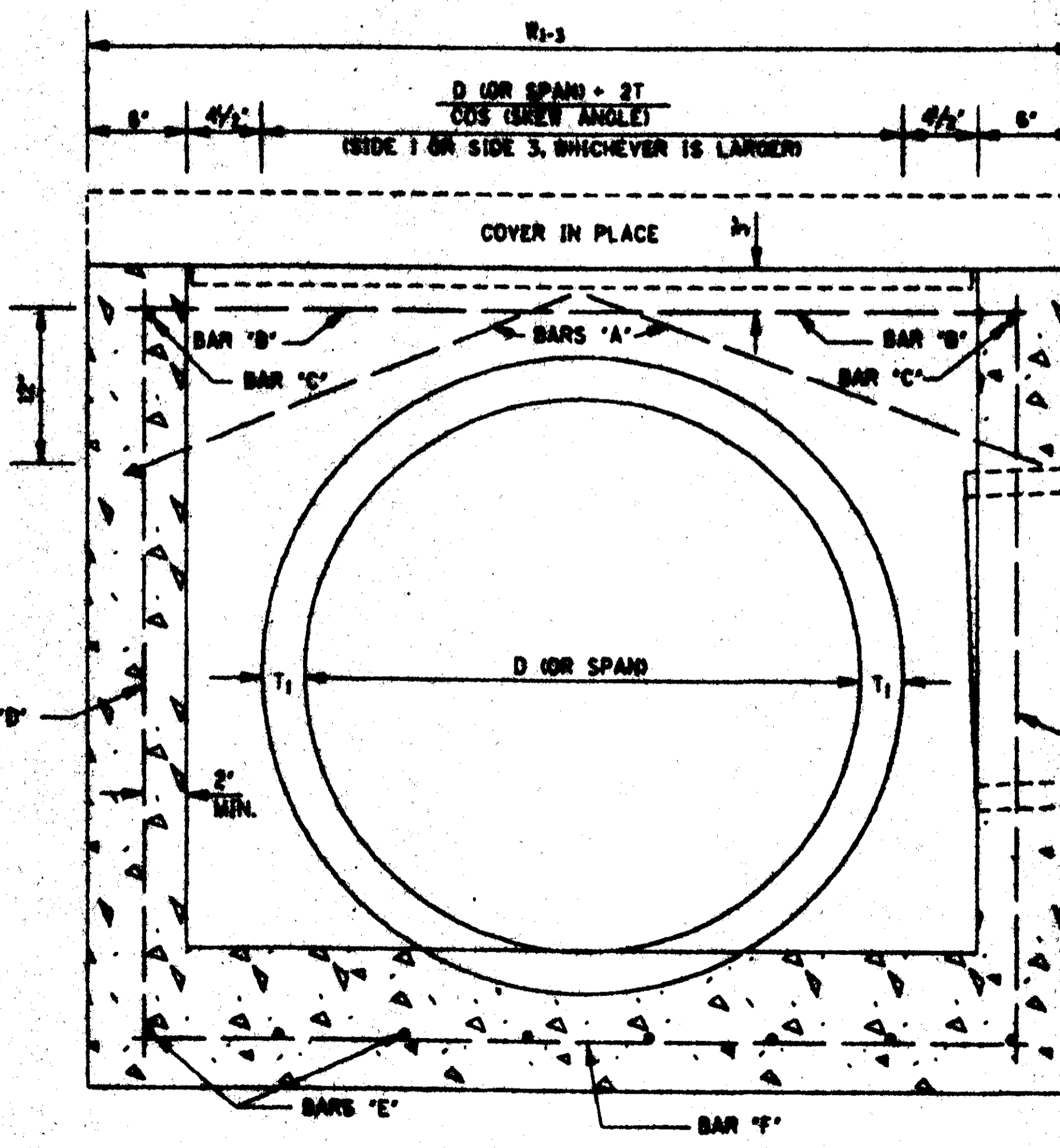
ELEVATION OF COVER



SECTION B-B



PLAN



SECTION A-A

REINFORCING BAR LIST			
BAR	SIZE	NUMBER REQUIRED	LENGTH
A	#4	2 PER PIPE OPENING	$\sqrt{196 + (W_1 + 2)^2}$
B	#4	2	$W_{1-3} - 6'$
C	#4	2	$W_{2-4} - 6'$
D	#4	4	$H - 6'$
E	#4	$2 \left[ \left( \frac{W_{1-3}}{2} \right) + 1 \right]$	$W_{2-4} - 4'$
F	#4	$2 \left[ \left( \frac{W_{2-4}}{2} \right) + 1 \right]$	$W_{1-3} - 4'$

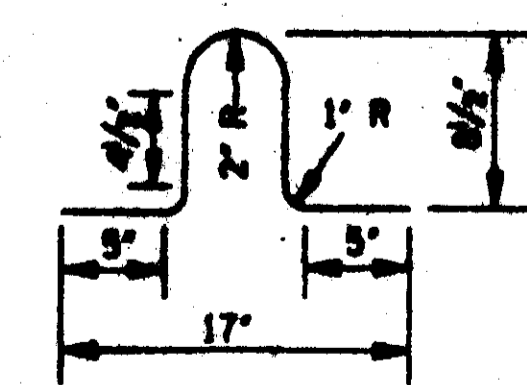
NOTE: VARIABLES AND DESIGNATIONS ARE AS FOLLOWS:  
 D OR SPAN = PIPE DIAMETER OR SPAN  
 W<sub>1-3</sub> = WIDTH OF SIDE 1 & SIDE 3  
 W<sub>2-4</sub> = WIDTH OF SIDE 2 & SIDE 4  
 W = W<sub>1-3</sub> OR W<sub>2-4</sub> (SIDE OF ENTERING PIPE)  
 ∅∅ = ROUND TO NEAREST WHOLE NUMBER

CL. "B" CONC. (yd<sup>3</sup>) = (O1 + O2) / 46.656 - ∑ PIPE OPENING DEDUCTIONS  
 WHERE: O1 = (5"W<sub>1-3</sub>W<sub>2-4</sub>) + [(1"W<sub>1-3</sub> - 12.5"W<sub>2-4</sub> - 12.5") + (1" + 6"W<sub>1-3</sub>W<sub>2-4</sub>)]  
 O2 = 12"TH - (1" + 6") [(W<sub>1-3</sub> - 12") + W<sub>2-4</sub>]

CIRCULAR PIPE			ARCH PIPE		
PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )	PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )
18"	2 1/2"	0.093	22" x 13"	2 1/2"	0.093
24"	3"	0.091	29" x 18"	3"	0.087
30"	3 1/2"	0.138	36" x 23"	3 1/2"	0.129
36"	4"	0.196	44" x 27"	4"	0.185
42"	4 1/2"	0.263	51" x 31"	4 1/2"	0.245
48"	5"	0.340	58" x 36"	5"	0.318
54"	5 1/2"	0.427	65" x 40"	5 1/2"	0.394
60"	6"	0.524	73" x 45"	6"	0.489
66"	6 1/2"	0.638			
72"	7"	0.747			

GENERAL NOTES:

1. REINFORCING STEEL QUANTITIES TO BE COMPUTED FROM BAR LIST AND SHOWN ELSEWHERE ON THE PLANS.
2. QUANTITIES FOR JUNCTION BOXES SHOWN ON THE PLANS WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
3. CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE DEFORMED BARS.
4. SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
5. IF PIPES ARE SKEWED MORE THAN 15° OR IF SKEWED PIPES PRODUCE CONFLICTS WITH ANOTHER OPENING, THE PIPE SHALL BE BROKEN BACK TO THE WALL OF THE JUNCTION BOX.



LIFT BAR

NOTE: LIFT BAR TO BE FABRICATED FROM A #4 BAR 30' LONG. TWO LIFT BARS ARE REQUIRED. REINFORCING STEEL FOR 2 LIFT BARS = 3.3 lbs.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
 ROADWAY DESIGN DIVISION  
 STANDARD PLAN

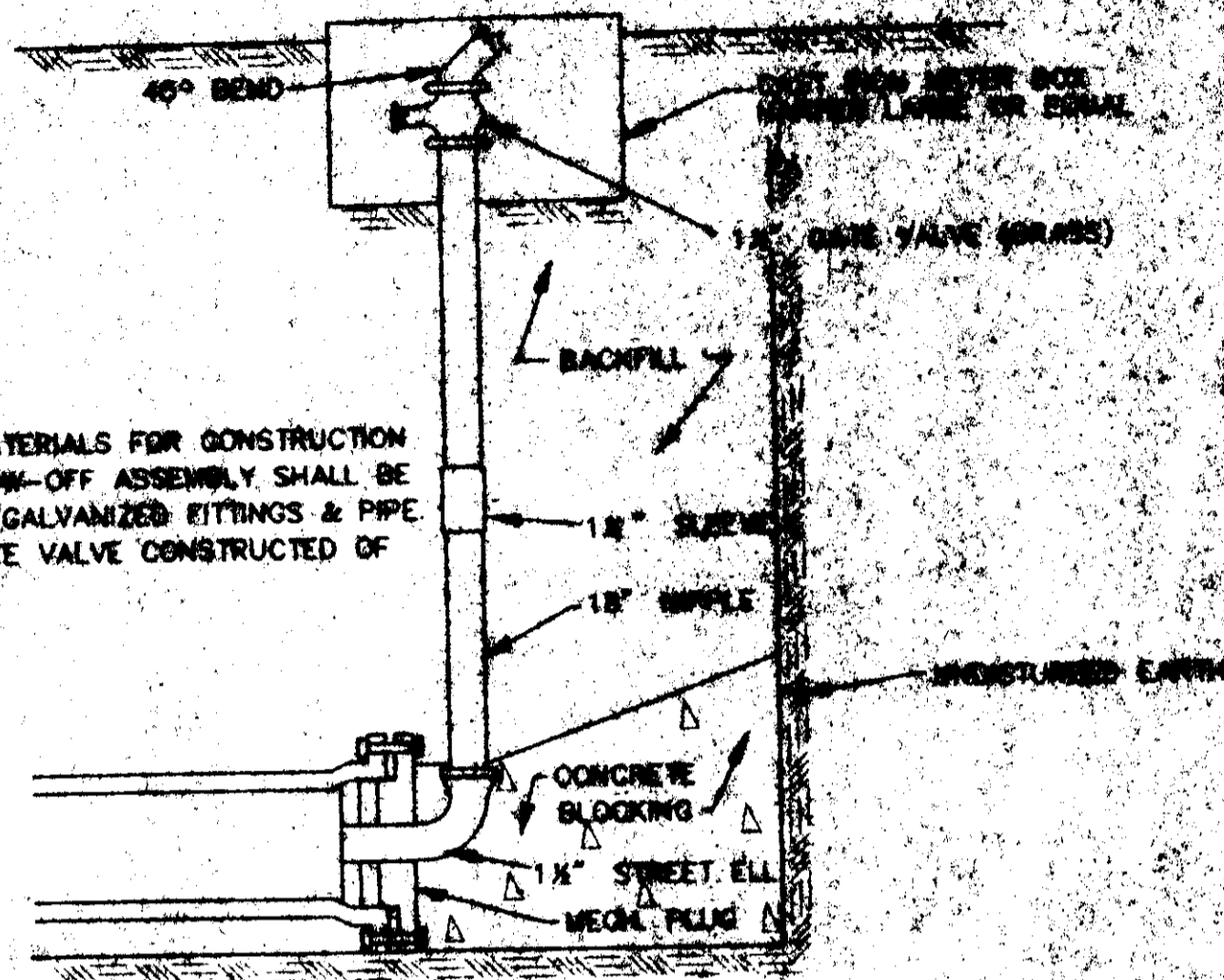
**JUNCTION BOX FOR PIPE CULVERTS**

ISSUE DATE: OCTOBER 1, 1998

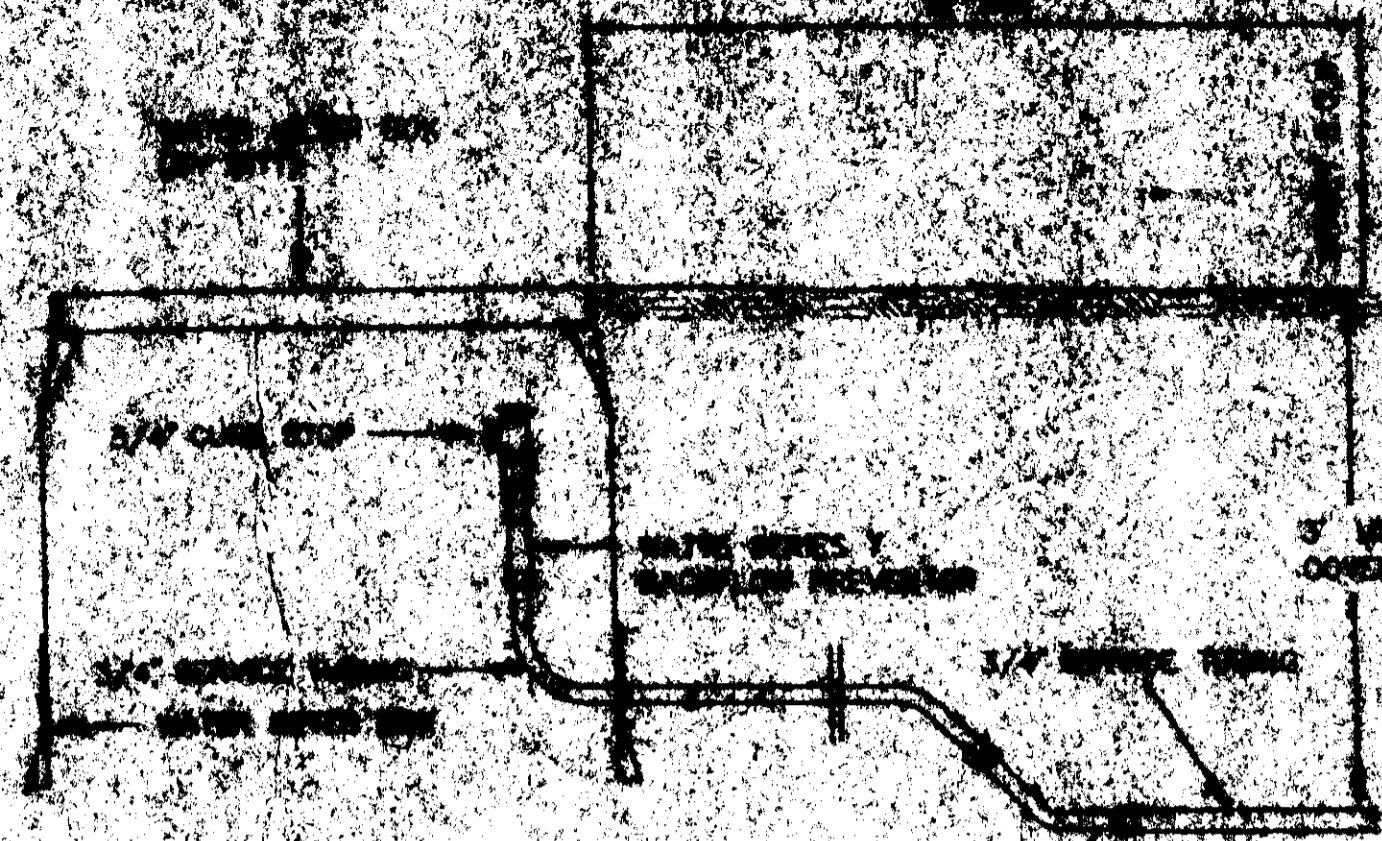
WORKING NUMBER: JB-1  
 SHEET NUMBER: 14



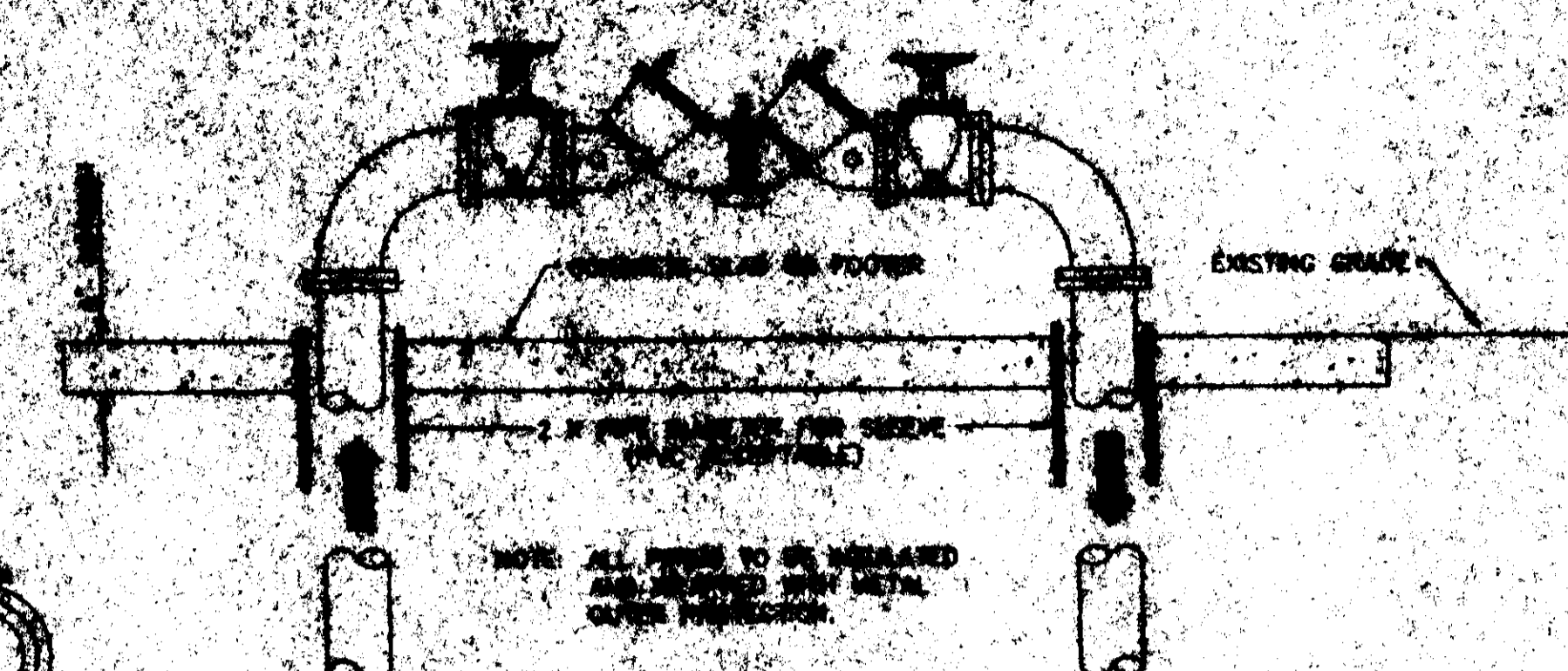
NOTE: ALL MATERIALS FOR CONSTRUCTION OF BLOW-OFF ASSEMBLY SHALL BE OF 1/2" GALVANIZED FITTINGS & PIPE. 1 1/2" GATE VALVE CONSTRUCTED OF BRASS.



TYPICAL BLOW-OFF ASSEMBLY  
N.T.S.

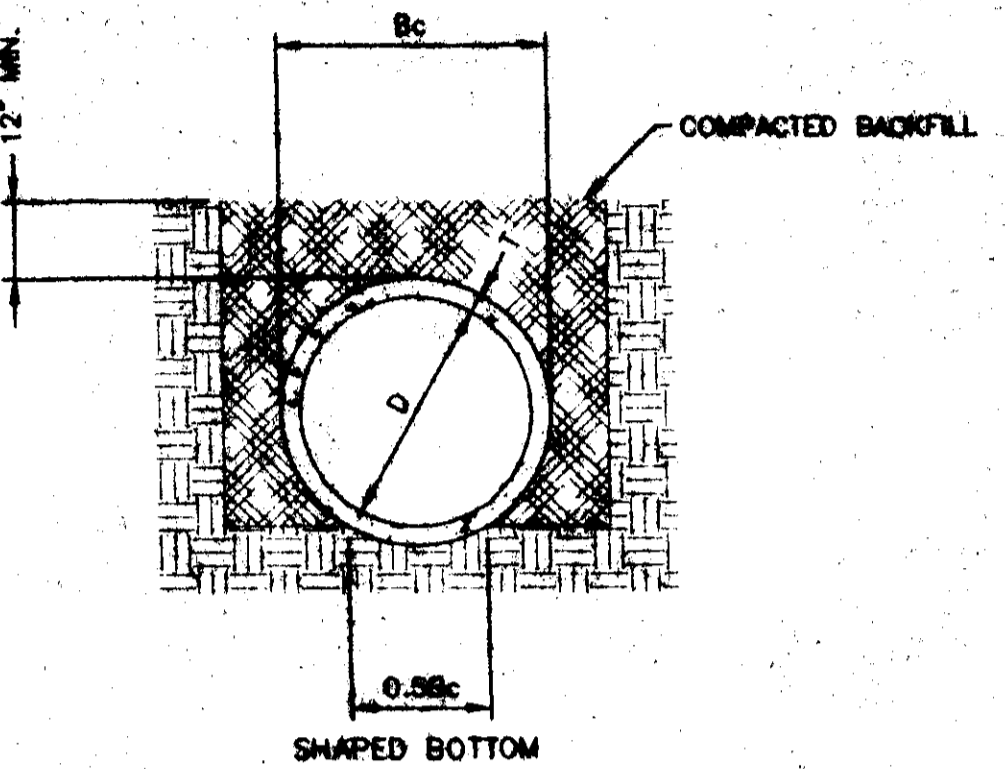
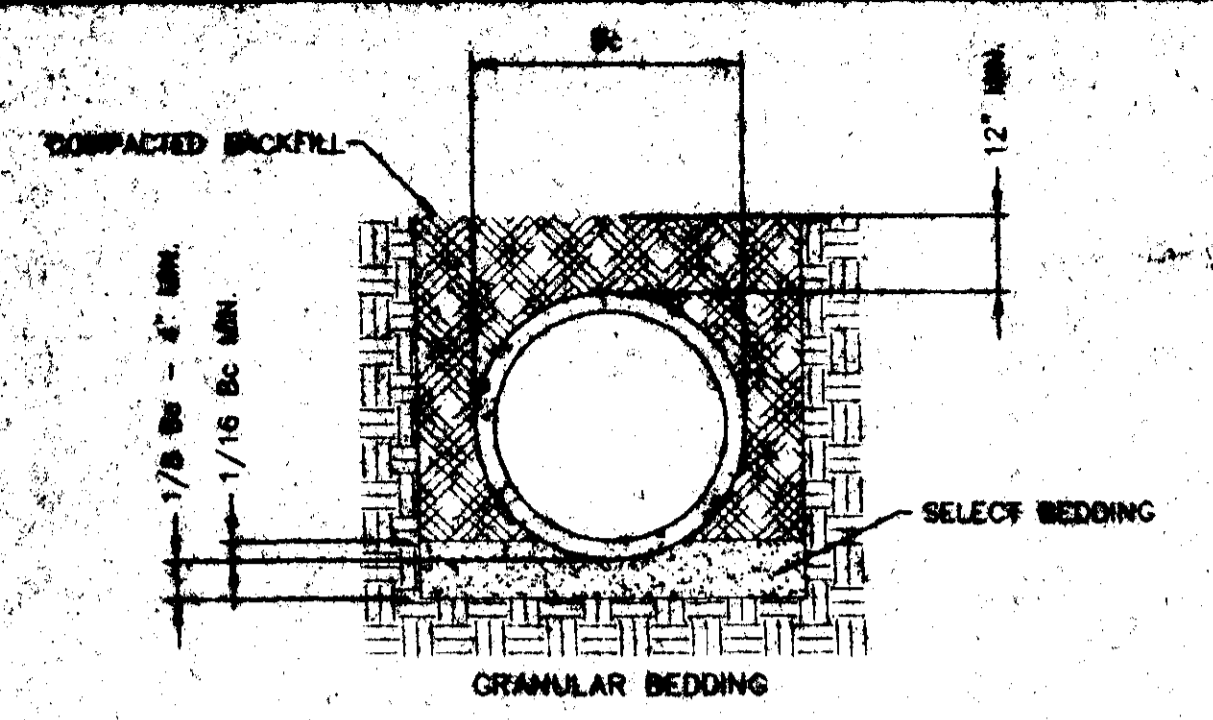


TYPICAL 3/4" WATER SERVICE  
N.T.S.

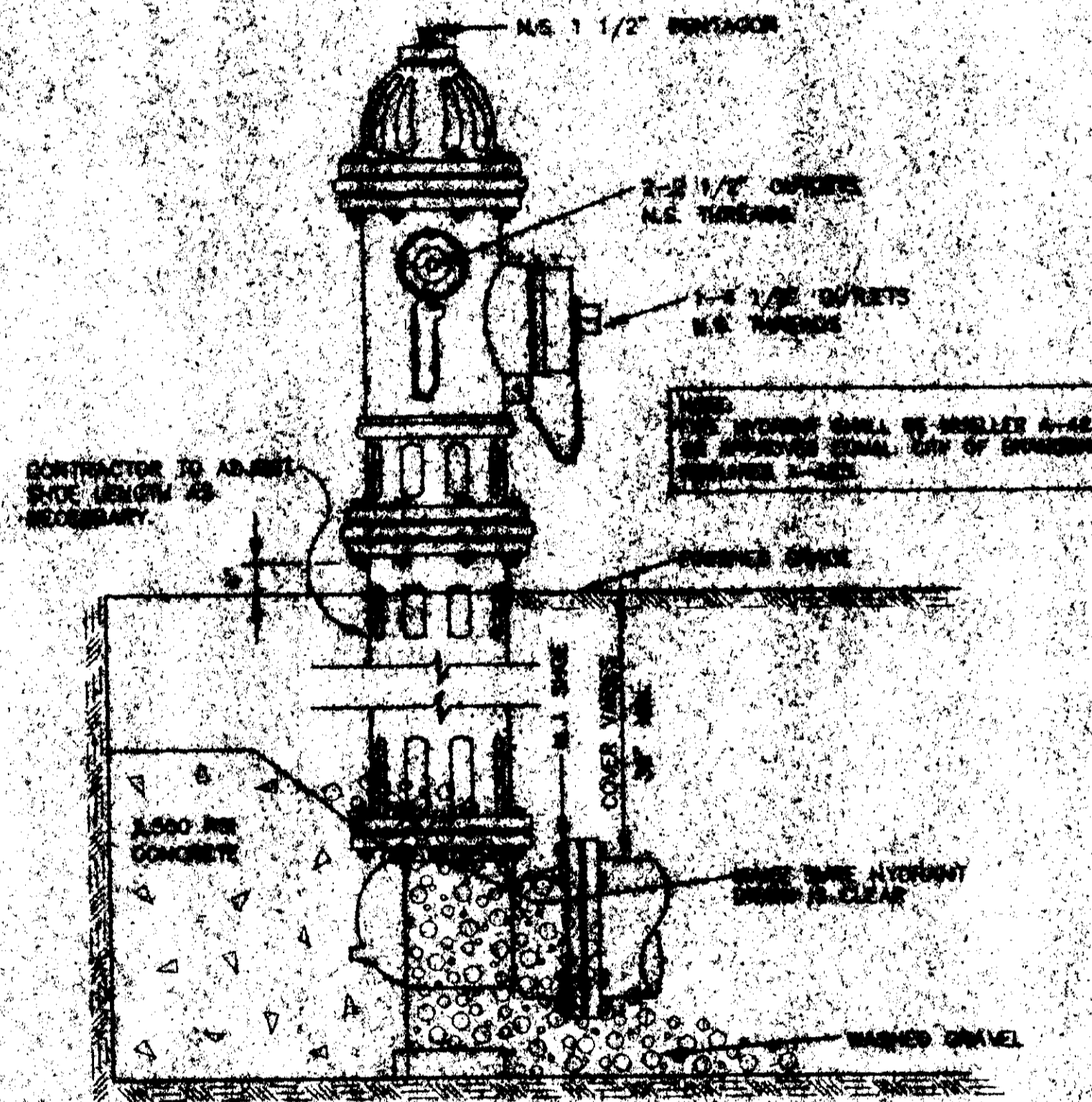


BACKFLOW PREVENTER DETAIL

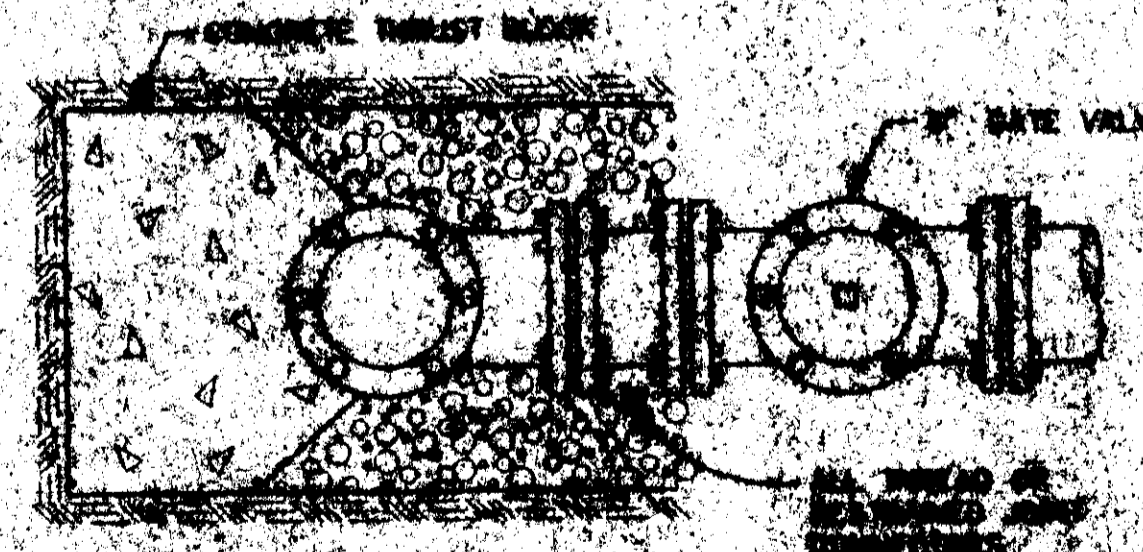
WATTS REGULATOR  
MODEL 8909  
4" BACKFLOW PREVENTER  
N.T.S.



TYPICAL TRENCH DETAILS  
CLASS "C"  
N.T.S.

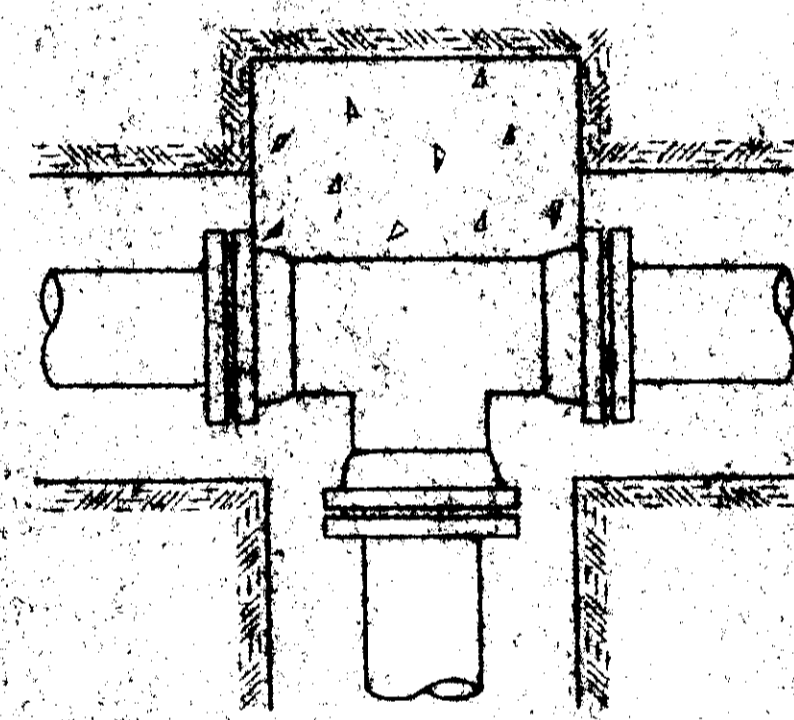


ELEVATION

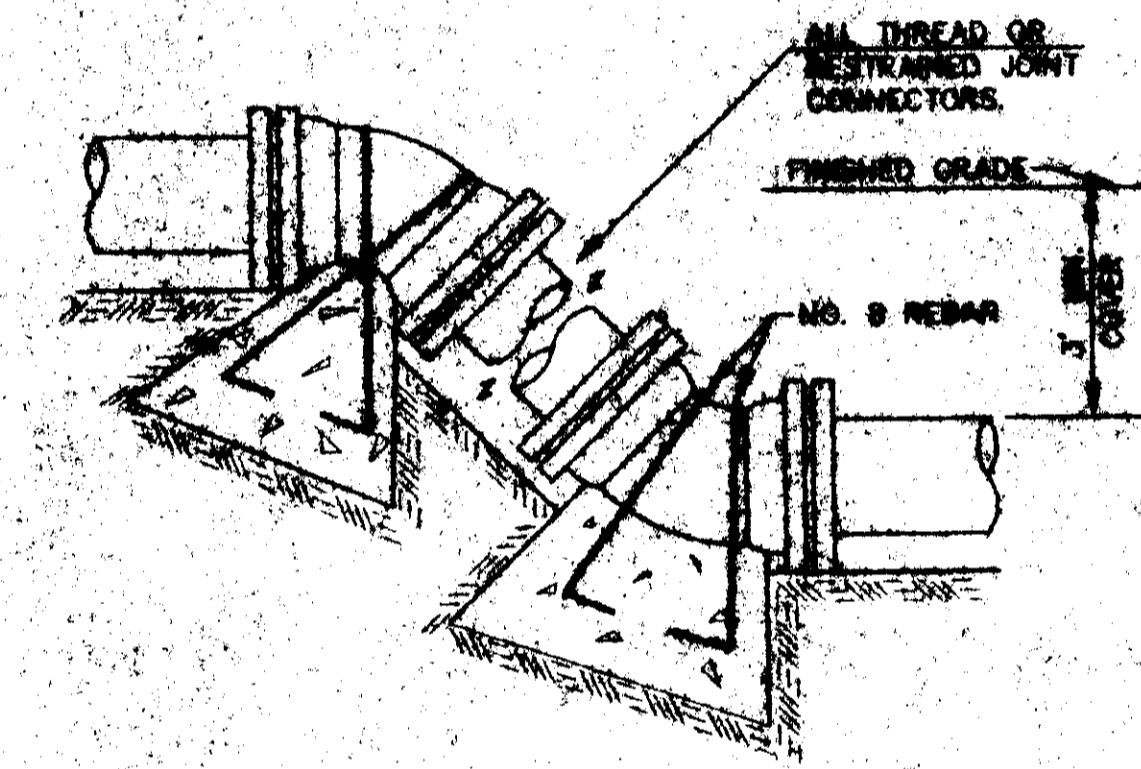


PLAN

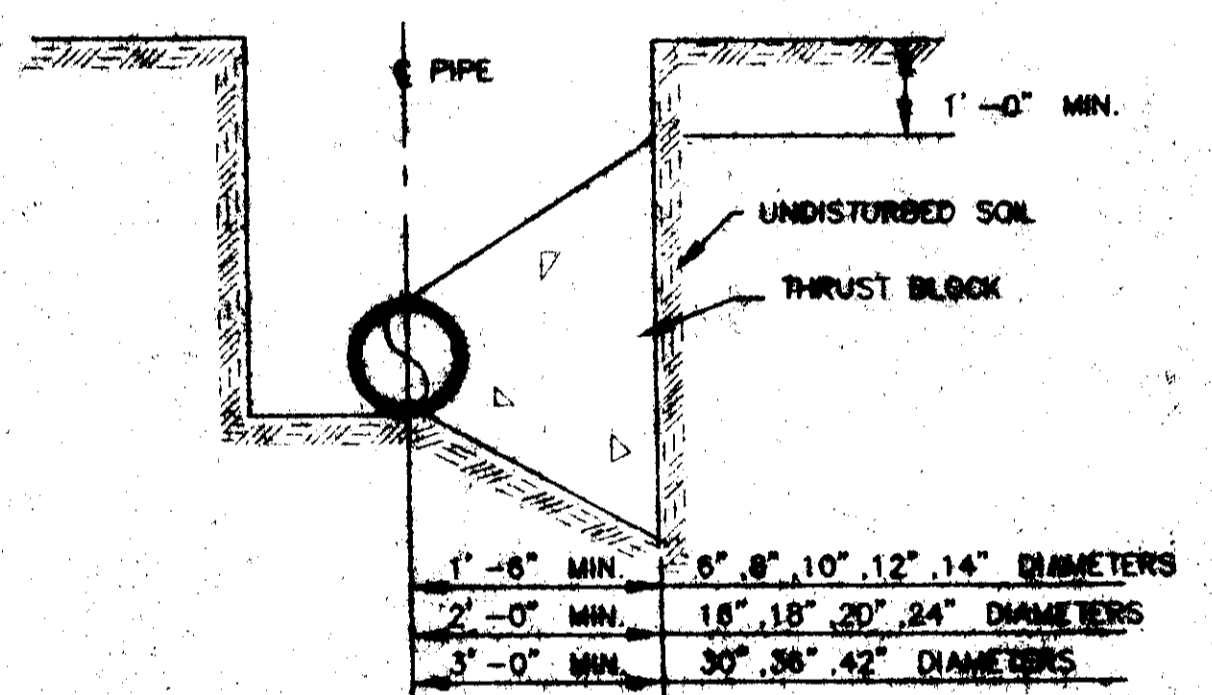
TYPICAL FIRE HYDRANT INSTALLATION  
N.T.S.



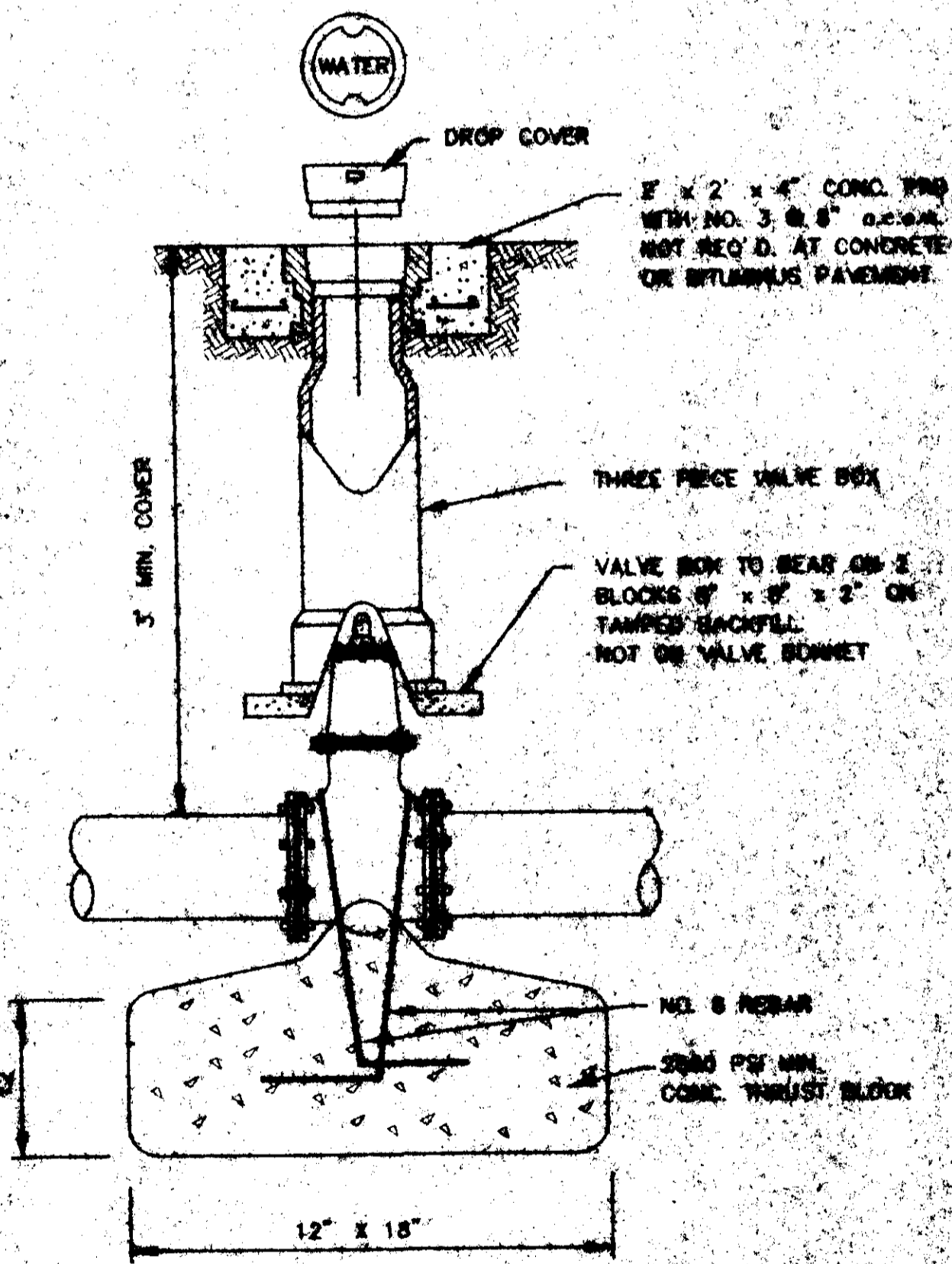
TEE



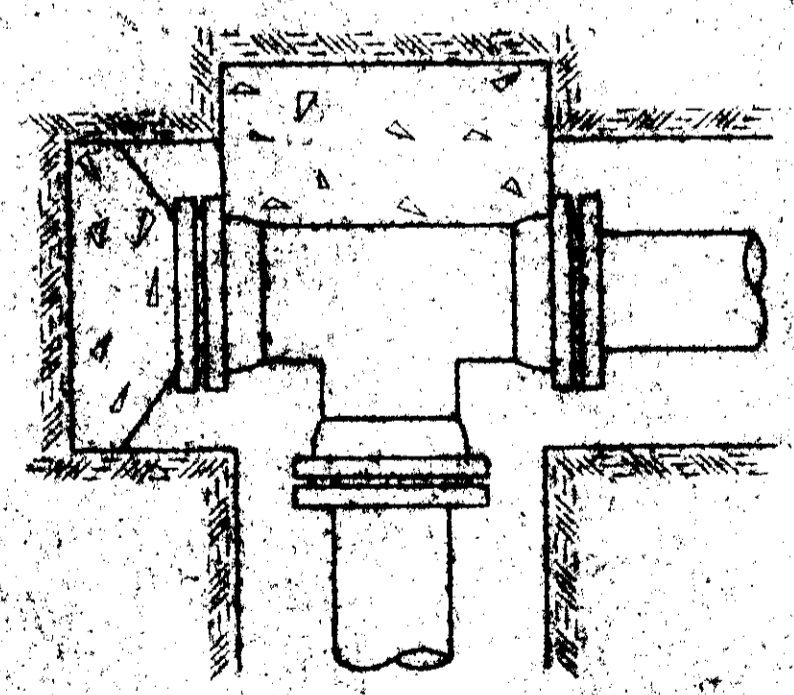
VERTICAL BENDS



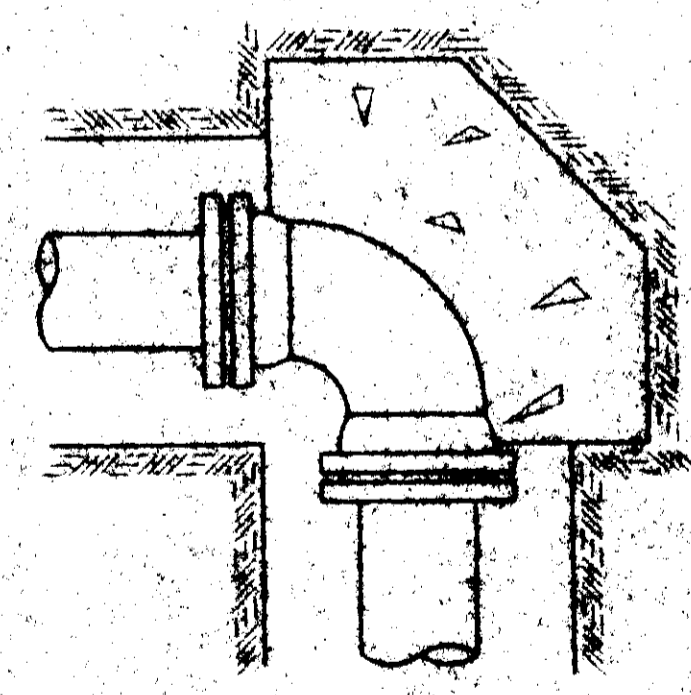
TYPICAL CROSS SECTION



GATE VALVE DETAIL  
N.T.S.



PLUGGED TEE



90° BEND

TYPICAL THRUST BLOCKING IN WATER MAINS  
N.T.S.

BEARING AREA IN SQ. FT.

NORMAL PIPE DIAMETER (IN.)	DEAD-END OR TEE	90° BEND	45° BEND	45 1/2° BEND	11 1/4° BEND
2					
4	2.0	2.0	2.0	2.0	2.0
6	3.0	3.0	3.0	3.0	3.0
8	3.6	3.6	3.6	3.6	3.6
10					
12	5.0	5.0	4.0	3.0	3.0
14					
16	8.0	12.0	6.0	4.0	4.0

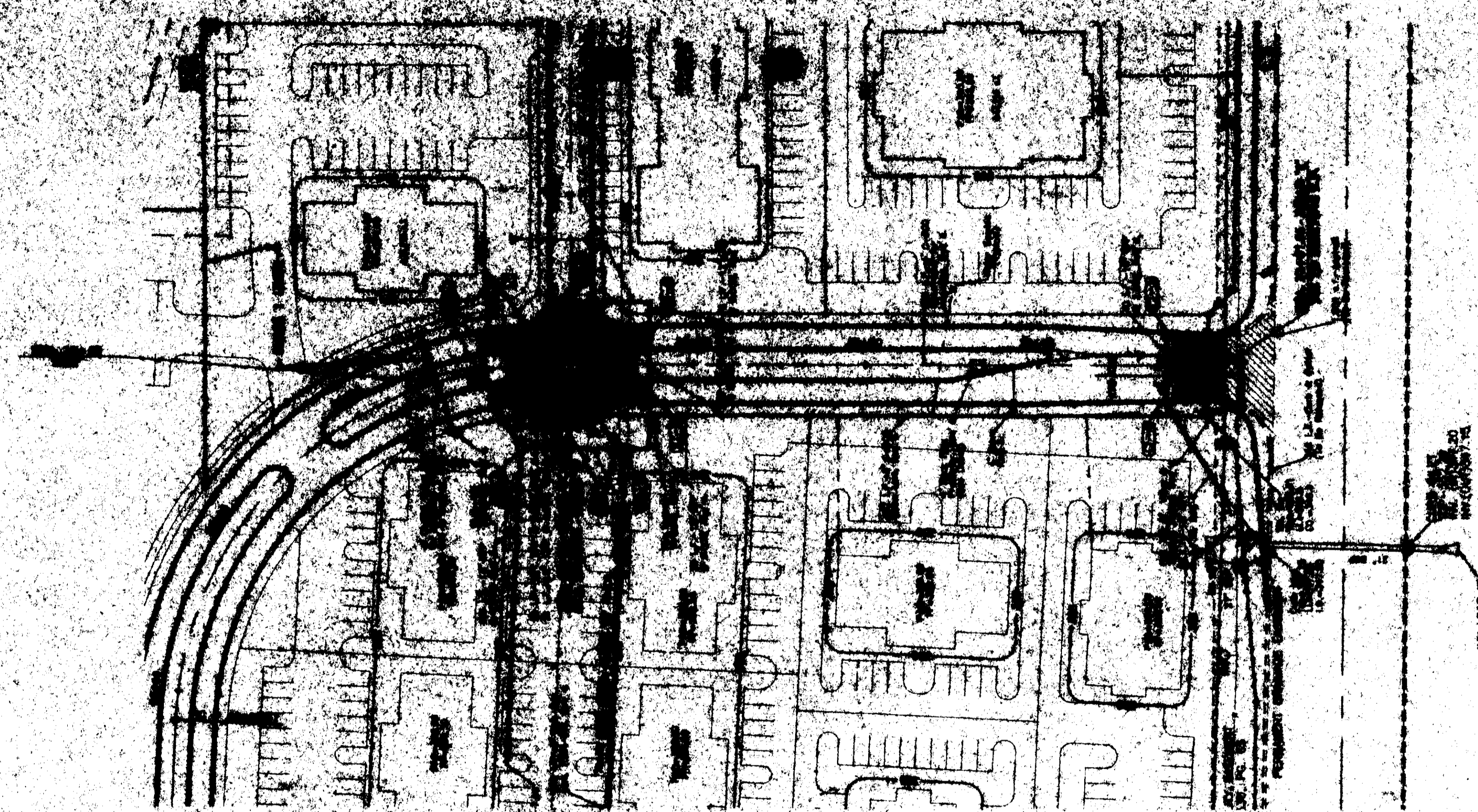
VERTICAL BENDS

2					
4			5.0 (2.8)	3.0 (1.8)	4.0 (1.8)
6			14.0 (5.2)	8.0 (3.2)	4.0 (1.5)
8			17.0 (1.3)	9.0 (3.5)	5.0 (2.2)
10					
12			16.0 (2.5)	12.0 (4.0)	8.0 (3.0)
14					
16			20.0 (3.5)	12.0 (1.9)	16.0 (6.7)

VOLUME OF BLOCKS INCLUDING SOIL LOAD CU. FT. (CU. YDS.)



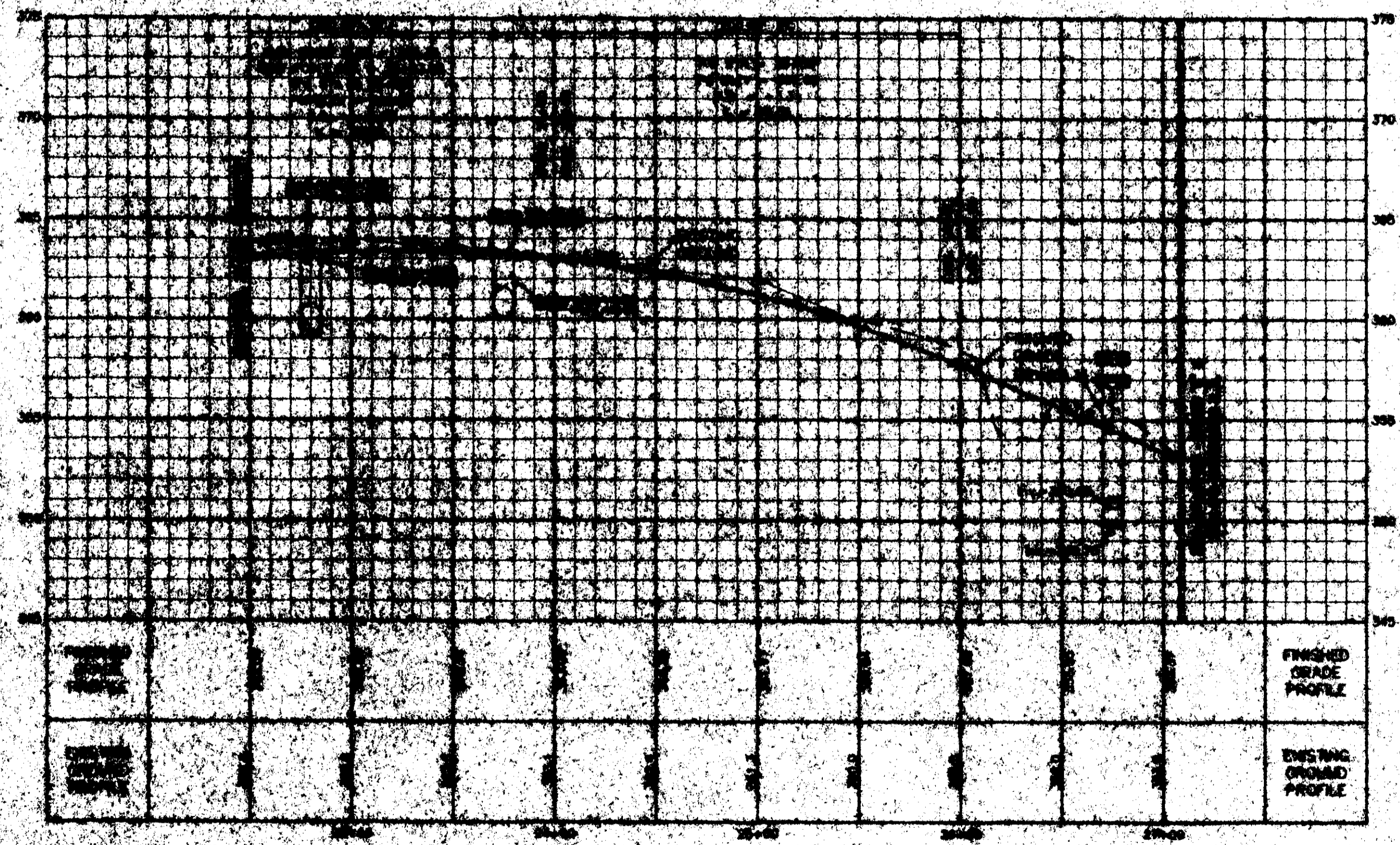
**GRADE PLANS AND PROFILES**



TC-5 D.A.=0.14 Ac. Csg=0.86 c.f.s. TOP=363.00 INV. OUT=363.84 12.0 L.F. @ 2%	TC-6 D.A.=0.15 Ac. Csg=0.85 c.f.s. TOP=363.00 INV. OUT=363.12 12.0 L.F. @ 2%	TC-7 D.A.=0.08 Ac. Csg=0.80 c.f.s. TOP=361.23 INV.=360.97 23.0 L.F. @ 2%
TC-8 D.A.=0.28 Ac. Csg=1.72 c.f.s. TOP=364.38 INV. OUT=362.00 23.0 L.F. @ 2%	TC-9 D.A.=0.08 Ac. Csg=0.82 c.f.s. TOP=363.25 INV. OUT=368.08 12.0 L.F. @ 2%	TC-10 D.A.=0.09 Ac. Csg=0.82 c.f.s. TOP=363.25 INV. OUT=359.27 12.0 L.F. @ 2.5%
CI-3 D.A.=0.89 Ac. Csg=2.61 c.f.s. TOP=364.35 INV.=368.66	CI-4 D.A.=0.45 Ac. Csg=4.96 c.f.s. TOP=354.35 INV.=369.75	



SCALES:  
 1" = 50' HOR.  
 1" = 5' VERT.



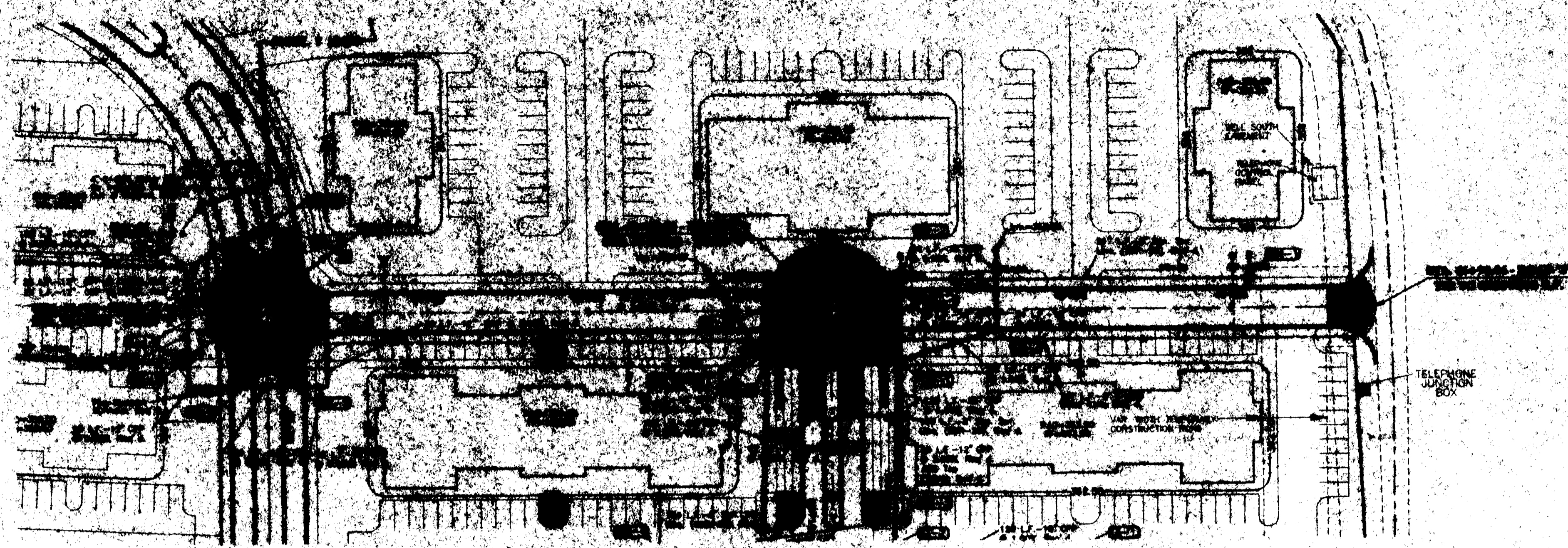


**MANHOLE STRUCTURE DATA:**

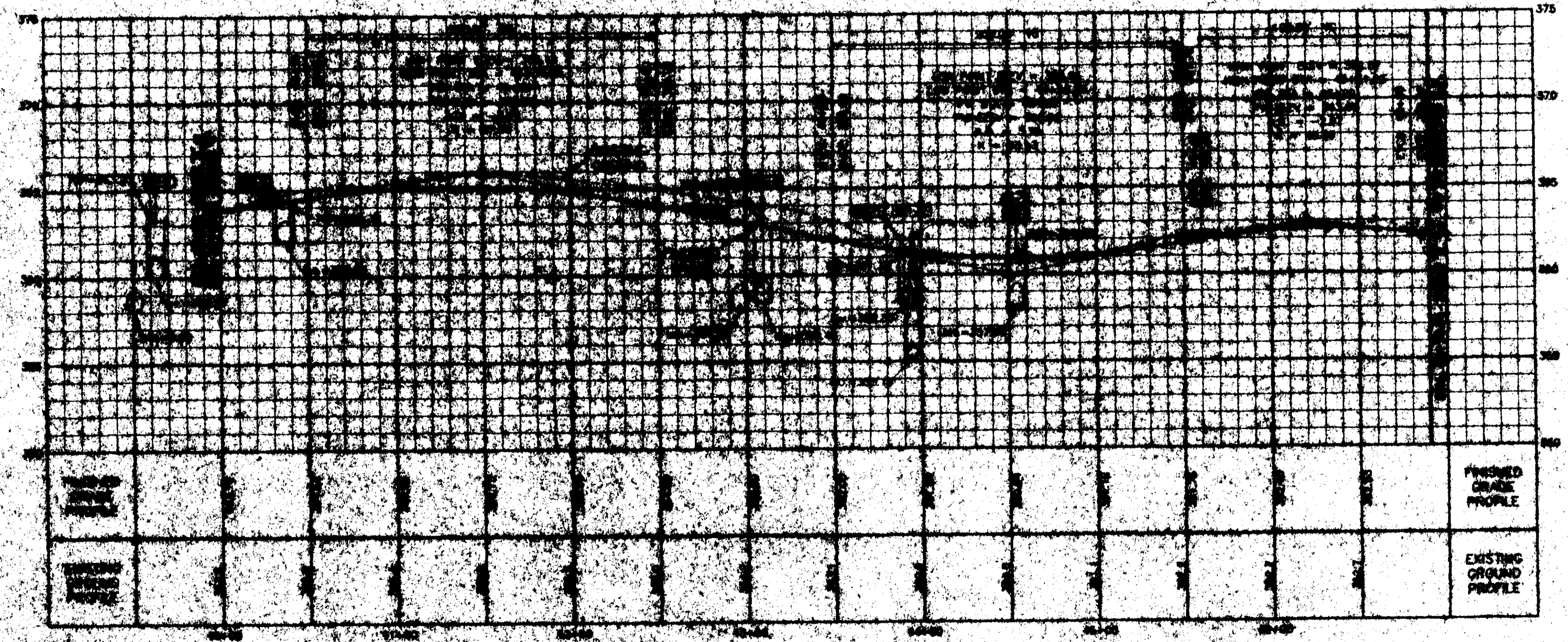
MH-1 STA = 67+47.16 TOP = 363.85 INV. OUT = 357.43 BOTTOM = 357.33 DEPTH = 5.0	MH-2 STA = 68+30.88 TOP = 362.12 INV. IN = 355.28 INV. OUT = 358.16 BOTTOM = 358.86 DEPTH = 7.08	MH-3 STA = 69+89 TOP = 358.88 INV. IN = 353.86 INV. OUT = 353.46 BOTTOM = 353.46 DEPTH = 4.79
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**FORM STRUCTURE DATA:**

J-1 S.A. = 0.00 Ac. Q <sub>15</sub> = 78.16 c.f.s. TOP = 360.00 INV. = 357.30	J-2 S.A. = 0.00 Ac. Q <sub>15</sub> = 6.03 c.f.s. TOP = 363.4 INV. = 357.20	TC-1 D.A. = 0.17 Ac. Q <sub>15</sub> = 0.80 c.f.s. TOP = 361.38 INV. OUT = 297.46 23.0 L.F. @ 2%
TC-2 D.A. = 0.51 Ac. Q <sub>15</sub> = 2.71 c.f.s. TOP = 362.81 INV. OUT = 358.46 23.0 L.F. @ 2%	CI-1 S.A. = 0.33 Ac. Q <sub>15</sub> = 7.20 c.f.s. TOP = 360.84 INV. = 358.16	CI-2 D.A. = 0.41 Ac. Q <sub>15</sub> = 9.32 c.f.s. TOP = 360.84 INV. = 357.85



SCALES:  
1" = 50' HOR.  
1" = 5' VERT.



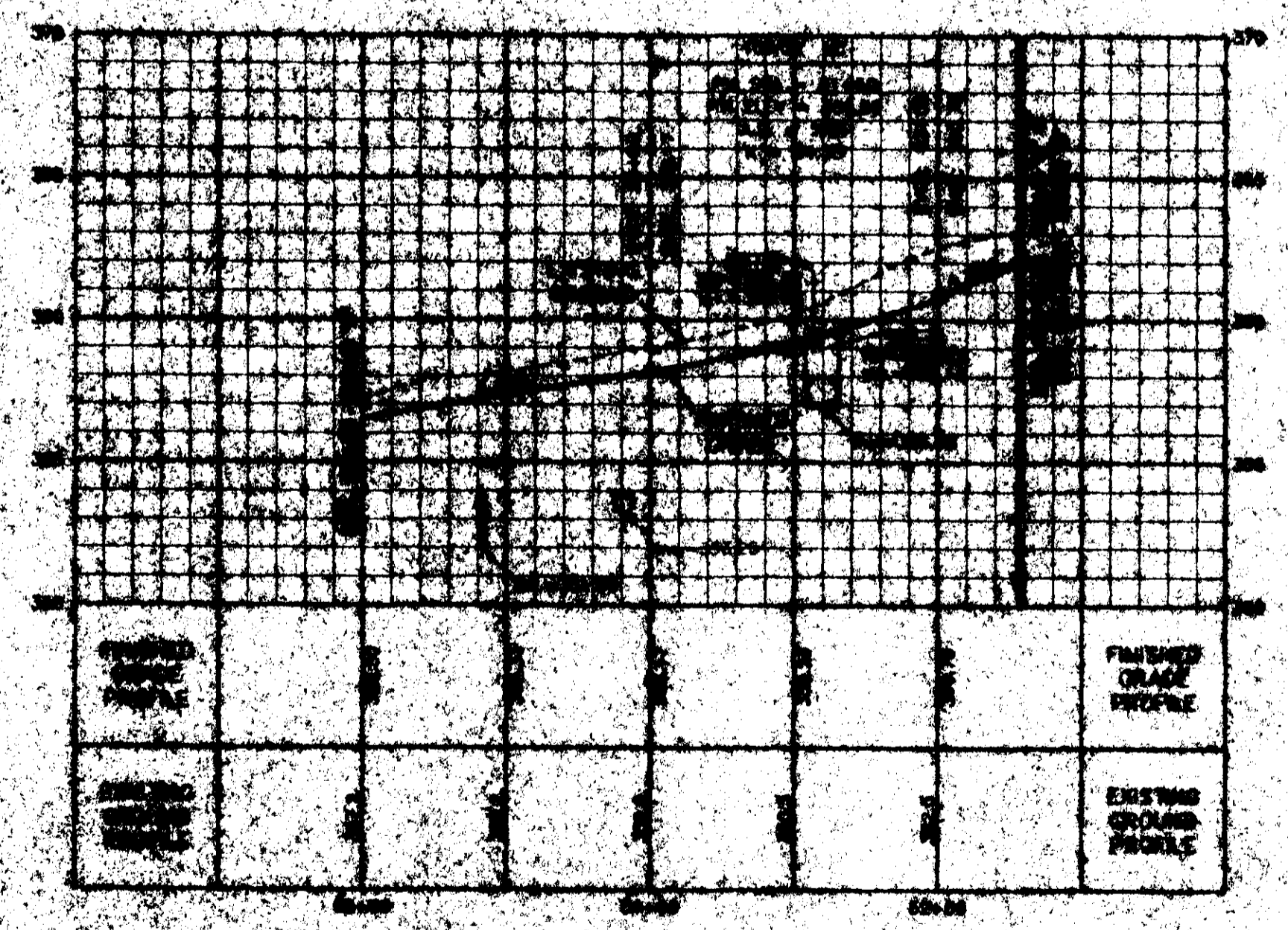
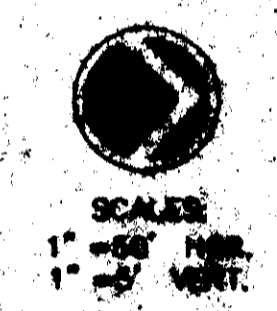
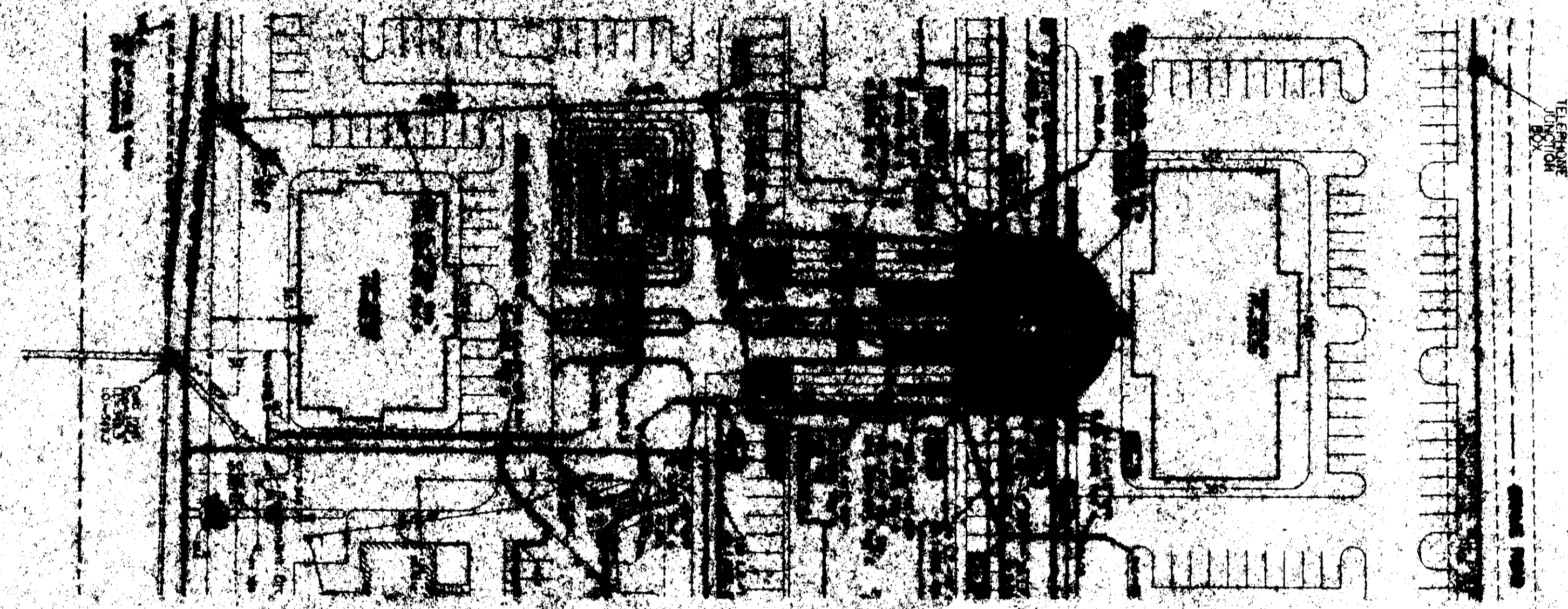


**MANHOLE DATA**

MH-2 STA. = 65+30.26 TOP = 362.12 INV. IN = 355.20 INV. OUT = 355.16 BOTTOM = 352.36 DEPTH = 7.08	MH-3 STA. = 65+60 TOP = 366.25 INV. IN = 353.66 INV. OUT = 352.86 BOTTOM = 363.48 DEPTH = 4.79	MH-4 STA. = 62+30 TOP = 363.0 INV. IN = 352.43 INV. OUT = 352.35 BOTTOM = 362.23 DEPTH = 10.77
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**STORM DRAINAGE STRUCTURE DATA**

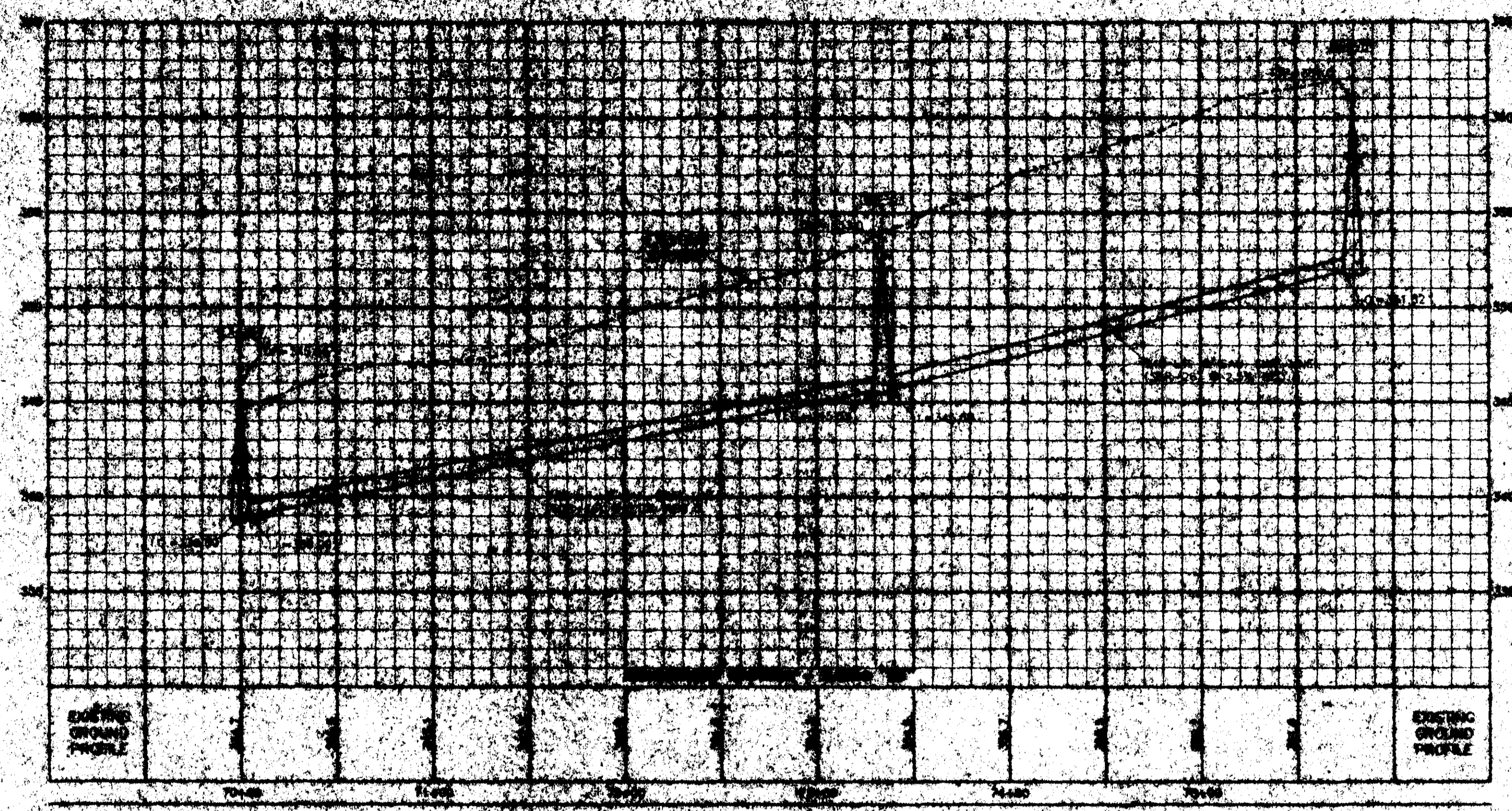
JS-1 D.A.=0.00 Ac. Cgs=10.15 c.f.a. TOP=360.60 INV.=356.40	JS-2 D.A.=0.00 Ac. Cgs=6.03 c.f.a. TOP=363.4 INV.=357.20	TG-1 D.A.=0.17 Ac. Cgs=0.90 c.f.a. TOP=361.32 INV.OUT=357.40 23.0 L.F. @ 2%
TG-2 D.A.=0.51 Ac. Cgs=2.71 c.f.a. TOP=362.81 INV.OUT=358.45 23.0 L.F. @ 2%	TG-3 D.A.=0.17 Ac. Cgs=1.86 c.f.a. TOP=366.82 INV.OUT=355.29 12.0 L.F. @ 2%	TG-4 D.A.=0.18 Ac. Cgs=0.98 c.f.a. TOP=366.80 INV.OUT=356.17 12.0 L.F. @ 2%
G-1 D.A.=0.34 Ac. Cgs=1.81 c.f.a. TOP=369.50 INV.=363.70	G-2 D.A.=0.37 Ac. Cgs=15.34 c.f.a. TOP=357.7 INV.=352.30	G-1 D.A.=0.33 Ac. Cgs=7.20 c.f.a. TOP=360.84 INV.=357.28
G-2 D.A.=0.41 Ac. Cgs=6.32 c.f.a. TOP=360.84 INV.=357.04		






**SANITARY SEWER PROFILES DATA**

MH-1 STA = 47+47.15 TOP = 363.83 INV. OUT = 367.43 BOTTOM = 367.33 DEPTH = 5.0	MH-2 STA = 65+30.26 TOP = 362.12 INV. IN = 350.28 INV. OUT = 355.06 BOTTOM = 355.06 DEPTH = 7.06	MH-3 STA = 63+80 TOP = 354.55 INV. IN = 353.68 INV. OUT = 363.56 BOTTOM = 353.46 DEPTH = 4.79
MH-4 STA = 62+30 TOP = 363.0 INV. IN = 352.43 INV. OUT = 362.33 BOTTOM = 362.23 DEPTH = 10.77	MH-5 STA = 75+79.49 TOP = 361.0 INV. OUT = 351.82 BOTTOM = 351.72 DEPTH = 9.28	MH-6 STA = 73+34.49 TOP = 358.0 INV. IN = 346.68 INV. OUT = 345.59 BOTTOM = 345.49 DEPTH = 7.51



  
 SCALES:  
 1" = 80' HOR.  
 1" = 5' VERT.

